

COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR FLEET OPERATORS

MAY 1949

TRUCKERS AHoy!

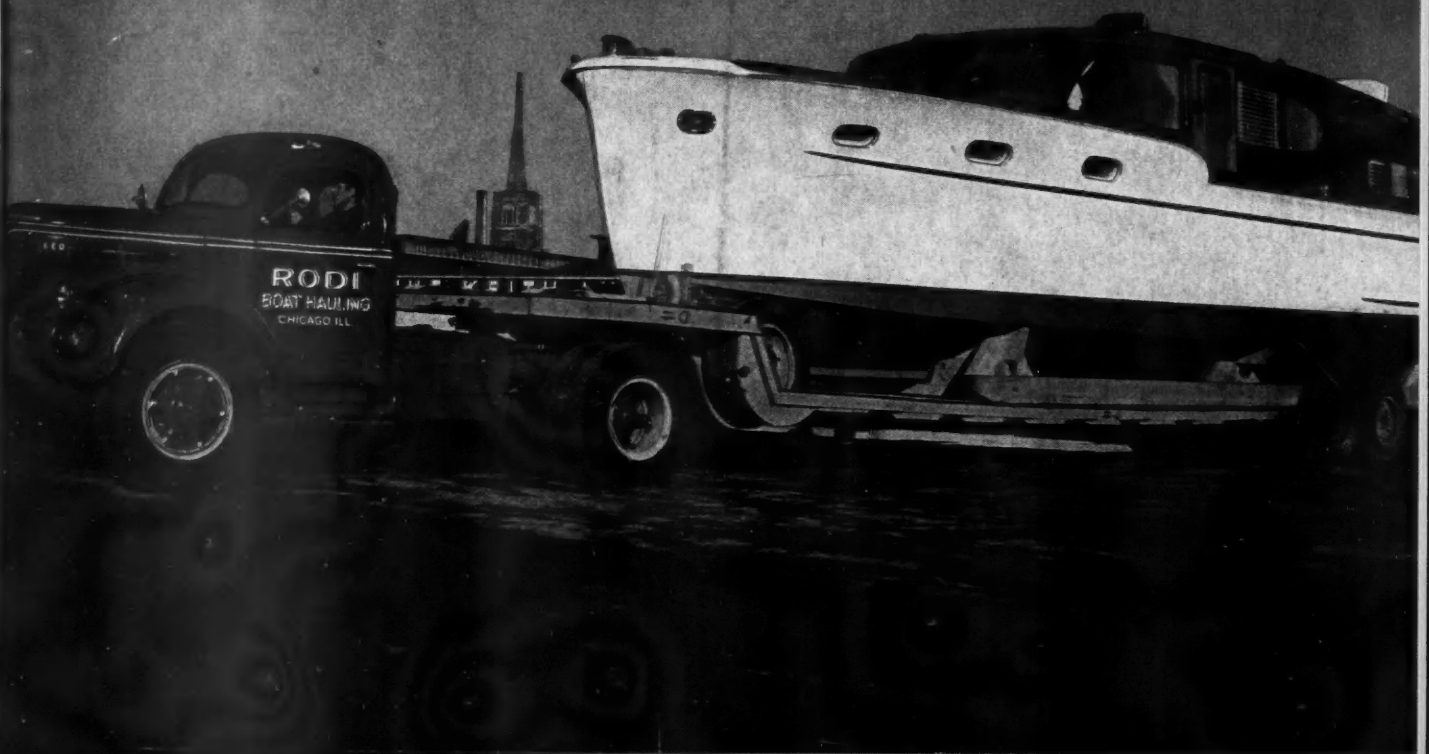
The sturdy Reo brings in the cargo every time, on time, safe and shipshape.

Operators, drivers, and the men in the shop *know* Reo trucks are the flagships of the highway fleet. Easier to handle in any traffic, carry a bigger payload . . . and spend less time in dry-dock, too.

(Aye, and these same men are keeping a weather eye on Reo, these days, for the biggest news in modern trucking history—it's coming soon!)

REO MOTORS, INC., LANSING 20, MICHIGAN

REO



What's the COST of "low-cost" hauling?



THE cost of *any* truck is the total amount of money you invest in it . . . as long as you own it.

That cost is usually far different from the truck's original price!

It can be far higher, for example, when you buy a truck that's too big or too small for the hauling job it has to do.

In such cases, costs go up rapidly . . . in wasted gas

and oil, in repairs, in shortened truck life, in time lost on the job.

It's important, therefore, that *your* truck be engineered and built . . . to fit *your* job! That's what is meant by a "Job-Rated" truck!

Only Dodge builds "Job-Rated" trucks. Every one of these trucks has the right one of 7 truck engines . . . "Job-Rated" for top efficiency and maximum economy. Every Dodge has the *right* chassis unit . . . from engine to rear axle . . . "Job-Rated" to fit *your* job, to save *you* money.

So if you're looking for the "lowest-cost" truck . . . ask your Dodge dealer to show you the "Job-Rated" truck that fits *your* job! Such a truck will give you the best *value* in transportation you can buy.

See or Phone
Your Dodge Dealer



For the good of your business—

Switch to **DODGE**
"Job-Rated" **TRUCKS**

time
k be
That's
y one
gines
mum
s unit
d" to
ne
ealer

If it's assembled with
Form-A-Gasket
it's
Leak-proof!



PERMATEX COMPANY INC., BROOKLYN 29, N. Y.

COMMERCIAL CAR

Vol. LXXVII Philadelphia, May, 1949 No. 3

EDITORIAL CONTENTS

Copyright 1949 by Chilton Company (Inc.)

EDITORIAL STAFF

JULIAN CHASE
Vice-President and Directing Editor

GEORGE T. HOOK
Editor

A. W. GREENE, *Managing Editor*

CHARLES B. RAWSON, *Associate Editor*

M. K. SIMKINS, *Technical Editor*

JOSEPH GESCHELIN, *Detroit Technical Editor*

LEONARD WESTRATE, *Detroit News Editor*

MARCUS AINSWORTH, *Statistician*

HOWARD KOHLBRENNER, *Art Director*

GENE HARDY, KARL RANNELLS, GEORGE BAKER
Washington News Editors

R. RAYMOND KAY, *Pacific Coast Editor*

FEATURE ARTICLES

Absenteeism Causes and Cures	65
Fleet Decentralization Saves \$42,400	68
You Should Be Selling Tires!	70
\$20,000 Slogan: Shut Off Your Motor Every Stop	72
Home, Home on the Road	76
Murder in the Fleet Field—Differentials	78
The How and Why of Fleet Safety—No. 8	81
5-Star Final on Fleet Safety	83
On the Record in Only 30 Minutes a Day	84
New Tilting-Cab White Trucks	86
Factors Involved in Trailer Selection	90
Instrumentation Provides Operating Economy	91
New Peterbilt Truck Models	94
Fruehauf Cuts 1250 lb from Stainless Vans	110
Report of SAE Transportation Meeting	134

DEPARTMENTS

Detroit Dispatch	6	Bulletin Board	45
Washington Runaround	10	Free Publications	48
The Overload	15	New Products	49
Time Out for Play	22	Factory Service News	57
Conference Corner	27	Shop Hints	74
Quiz	34	Truck Specifications	97
CCJ Newscast	39	Introducing	101
Laugh It Off	42	New Registrations	102



CCJ Reader Digest

Tire Market Roundup

Detroit News Editor Len Westrate has just completed his annual pilgrimage to Akron to bring CCJ readers a report on the latest doings at the Tire Capital. Even though it's a buyers market, low prices are doubtful. See page 70.

Absenteeism

Two CCJ special correspondents roamed through 28 states to bring you this up-to-the-minute report on causes and cures of absenteeism in the fleet maintenance shop. Some of their answers are surprising. See page 65.

Home on the Road

This one proves that fact can be fancier than fiction, being the account of Lustron Corp.'s maneuvers to put 1600 specially-equipped trailers on the road to carry complete all-steel \$8000 homes to all parts of the nation. See page 76.

Tilting-Cab Whites

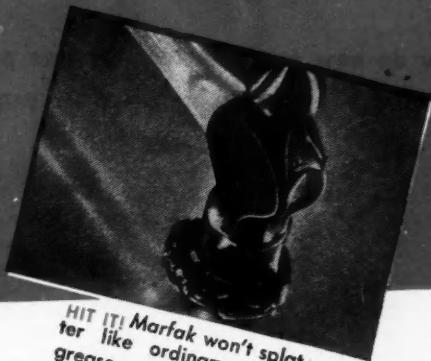
Although most fleetmen already know something of White's loosely-guarded secret, here at last are full details of the new 3000 series with power-operated tilting cabs and a full measure of functional design. See page 86.

Decentralization

Joseph Husson of Consumers Co., Chicago, gives the physical and financial details of a fleet decentralization plan whereby his company saved \$42,400 the first year. To date 11 small garages have replaced one of two big garages. See page 68.

LAST LONGER

AND maintenance costs come
down when you lubricate with
long-lasting Texaco Marfak.



HIT IT! Marfak won't splat-
ter like ordinary chassis
grease—proof that it stays
in the bearings under heavy
loads and pounding service.

Heavy loads won't squeeze *Texaco Marfak* out of bearings. Rough service won't jar it out. *Texaco Marfak* seals out dirt and road splash, keeps rust-forming moisture off metal. Bearings get full protection, parts last longer, maintenance costs less.

In wheel bearings, *Texaco Marfak Heavy Duty* is the stay-on-the-job lubricant to use. It seals itself in, seals out dirt, protects against rust. It won't leak onto brakes . . . requires no seasonal re-packing. *Texaco Marfak Heavy Duty* will save you many a wheel bearing replacement . . . sharply reduce your maintenance costs.

To assure longer life for *engine* parts, lubricate with *Texaco D-303 Motor Oil*. This fully detergent and dispersive oil keeps engines free of carbon, gum and sludge . . . fully protected against wear. You can count on getting more power, reduced fuel consumption, lower maintenance costs.

Let a Texaco Lubrication Engineer help you establish lubrication procedures of proven ability to increase efficiency and reduce costs. Just call the nearest of the more than 2300 Texaco Wholesale Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.



STRETCH IT! Marfak holds to-
gether where ordinary grease
comes apart—proof that it
can't work out of bearings,
gives longer-lasting protection.



RUB IT! See how Marfak lique-
fies under friction while re-
taining its tough outer "col-
lar"—proof that it seals itself
in, seals out dirt and moisture.

Lubricants and Fuels

FOR THE TRUCKING INDUSTRY



Detroit Dispatch



by **LEONARD WESTRATE**

CCJ Detroit News Editor

How do new truck leases-purchase plans operate? . . . Light truck sales are up but how about prices? Who got latest army contract for engines? . . . What do Ford, Federal and others have up their sleeves?

Lease-Purchase Plans

That lease-purchase agreement mentioned in this department some time ago now is in use. It was started by White and now GMC has it available. Basically it involves acquisition of new trucks under a lease arrangement of a specified amount per month. When the total purchase price of the truck, plus all interest, insurance, and other charges have been met, the buyer takes title and carries the vehicle on his books in the value of \$1. The financing is carried by an agency which holds title until the truck is paid for. Advantages are that the buyer does not carry the truck on his books as an obligation, and for tax purposes he can charge off the monthly rental fees as operating expenses. This latter item is balanced, however, by the fact that he cannot depreciate the truck further after taking title. The plan is designed for operators who must keep capital expenditures low and can prove satisfactory records or earnings, safety performance and maintenance.

New Diesel Markets

A manufacturer of diesel trucks reports that the trend toward diesels is expanding

into new areas. The company says that once a large user in a new area switches to diesels their use fans out in that particular locality. A spokesman also points out that new diesel users find that it takes a little time to train drivers how to operate the trucks, since they will not withstand the abuse of slow speed lugging that a conventional gasoline engine will tolerate.

Engine Replacement Kit

One of the larger truck manufacturers, who will be out with new models within a few months, is planning to offer a replacement kit for adapting the new engines to older vehicles. It will be cheaper than installing a new engine of the original type.

Ford in New Lengths

Ford will start late this month to produce three additional wheelbase models in its truck line, on the F-5 and F-6 lines, one on the large F-7 and F-8 series. We will have more detailed information in this department next month along with news of another interesting development in the large Ford truck series.

Light Truck Sales Up

There has been a noticeable rise in optimism among truck manufacturers in Detroit in recent weeks. Both Ford and Chevrolet are reporting high sales although the big advance in both cases has been in light jobs—panels and pick-ups—which have been in short supply since the end of the war. Chevrolet currently is running about 65 per cent light models and Ford close to 60 per cent. Nonetheless, sales of larger units also have increased, although not to any startling extent. GMC has had a very sharp rise in sales following price reductions late in February which ranged up to more than \$200 in some cases. Ford and Chevrolet also reduced prices but the cuts were not large enough to account for any substantial increase in sales. In 1½ ton and up models, the market still is very rugged for all companies. The feeling is that the market is there if the dealers will get out and push sales. It is estimated that at the present time a million and a half trucks are in operation that are at least 12 years old and nearly another million which are 14 years or older. Another breakdown by AMA shows that at the end of last year 2.4 million trucks were over 10 years old, compared with 1 million in 1941.

Plymouth's Fleet Bid



First picture of the new Plymouth 3 passenger business coupe on the much-heralded 111-in. wheelbase chassis. It has the same 97 hp high-compression engine (7 to 1) and other major components used on the longer Plymouth lines

Lower Prices?—No Comment

Truck sales managers start talking about the weather when the subject of price reductions is brought up. Their general opinion is that costs still will not permit any sizable reductions in the next several months. Nonetheless, it is a fact that price of materials definitely is on the wane with lead, zinc and copper on the decline. There has been some reduction in the price of steel, but principally by suppliers who have been out of line with their competition. However, it is felt in Detroit that the pressure for reductions in steel prices will develop rapidly in line with a much freer supply. Considerable savings are in prospect through elimination of conversion steel and reduced scrap loss. Already there are reports that

(TURN TO PAGE 18, PLEASE)

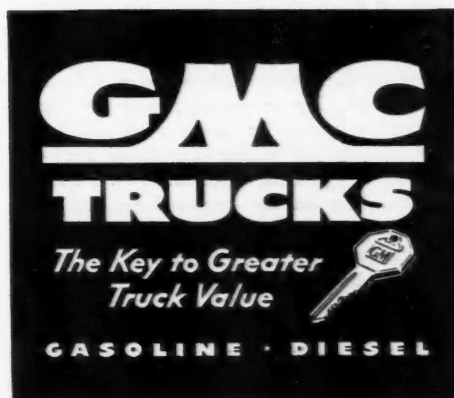


GMC trucks are offered in types for every city and inter-city transport job . . . from pickup, panel and special delivery models to powerful gasoline and Diesel trucks and truck-tractors in all sizes and capacities.

The weekly "bread bakin'" of Grandma's time is but a pleasant memory to many city-dwelling families. Now, each day, motor trucks bring fresh, golden-crust loaves to retail stores and kitchen doors from gleaming ovens miles away.

A large western bakery does a superb job of this kind. It operates a fleet of GMC-powered semi-trailers, each specially insulated and heated to keep 12,500 loaves oven-fresh on journeys to sub-stations 100 miles from its plant. From sub-stations, another fleet of special GMC door-to-door delivery units makes speedy local distribution.

Keystone of this operation is *transport dependability* . . . and GMCs provide it, as they do for every type of hauling job.



GMC TRUCK & COACH DIVISION • GENERAL MOTORS CORPORATION

COMMERCIAL CAR JOURNAL, May, 1949



by **GENE HARDY**
CCJ Washington Correspondent

Washington Runaround

Where is ICC focusing its latest safety efforts? . . . Just how will the army spend \$81 million for new vehicles in new fiscal year? . . . Who gets most of two-way radio sets?

ICC Steps Up Safety

The Interstate Commerce Commission, Section of Safety, is expected to receive a substantial portion of the additional \$200,000 assigned to the Bureau of Motor Carriers in the appropriations for the fiscal year 1950. The money is expected to be expended largely for safety work and for the purpose of ending the delay in issuance of operating certificates. . . . Public hearings on the proposed revision of the ICC Motor Carrier Safety regulations should get underway in early fall. Final draft of its second revision was completed late last month. . . . The Section of Safety is also conducting an informal investigation into the increasing frequency with which accidents are occurring in truck transport of steel. Numerous complaints have been received from Ohio, Indiana and Michigan relating to the danger to

drivers and the public from the shifting steel loads. During the past year transportation of steel by truck has increased steadily due primarily to higher rail rates and a switch to f.o.b. mill pricing. The ICC feels that proper type of equipment is not being used and believes that more care should be exercised in handling. An informal conference of all parties concerned appears to be the next step.

Combustible Fabric Ban

A bill to prohibit the transportation of certain highly combustible fabrics has been introduced by Representative Johnson (R., Cal.), and is designed to curb fabrics with a high flash point that brought death and injury to many children wearing decorative costumes. It would not apply to fabrics to be used for purposes other than wearing apparel.

Mobile Radio Growing

Two-way radio has already been authorized for some 200,000 vehicles, according to Wayne Coy, Chairman of the Federal Communications Commission, who also predicts that within five years 500,000 vehicles will be so equipped. Included in present authorization are 32,000 radio-equipped taxicabs, 26,000 utility company trucks, and 50,000 mobile police units. While two-way radio for inter-city truck and bus lines is still in an experimental stage, truck and bus lines are rapidly turning to radio. In addition to two-way radio, there are also some 7000 vehicles now equipped with radiotelephone enabling the occupant to talk via regular telephone switchboards with any other phone in the country.

Trailer Output Down

Truck-trailer production in February amounted to only 2280 units, according to the Bureau of Census. This monthly total was the lowest reported since prewar days and is well below the 3667 units produced in February, 1948, and several hundred below January, 1949 output of 2766 units. Shipments for the periods are as follows: 2375 in February, 1949; 4000 in February, 1948; and 2566 in January, 1949.

\$81 Million for Army Trucks

Despite a substantial cut in appropriations for Army Ordnance, there is not likely to be any great change in Ordnance's plans to purchase some \$81,280,000 worth of new vehicles during the fiscal year 1950. Ordnance plans to buy 16,281 trucks, 48 ambulances and 1274 sedans, which will be used largely to replace unserviceable equipment. Except for those purchased during the current fiscal year, the youngest military trucks are 1945 models.

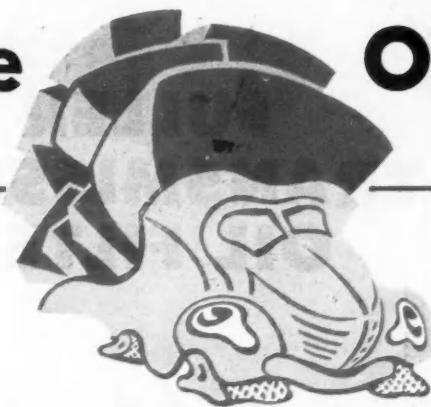
General Omar N. Bradley, Army Chief of Staff, told the House Appropriations Committee that "it is true that we have quite a number of trucks left over from World War II. The question comes up, however, whether or not it would be sound economy to send our first units overseas with trucks 5, 6, or 7 years old. It is essential that we start a replacement program for those trucks to get new equipment which we think we should have for the first units that go overseas."

Generally speaking, the Army figures that when it costs approximately 35 per cent of its original cost to overhaul it is no longer profitable.

Included in the appropriations cut were specific directions to reduce the number of gadgets procured for non-combat vehicles. The House Appropriations Committee was particularly incensed at finding that the Army intended to purchase jeeps at a cost of approximately \$2500 each, which included \$823.14 for so-called extras and \$500 for one year's supply of spare parts. Congress maintains that need for all of these accessories and parts is not

(TURN TO PAGE 98, PLEASE)

The OVERLOAD



by George T. Hook

Editor

Will Punitive Penalties Correct the Evils of Overloading?

WHY is it so difficult to get shippers to support the claims of truck operators for higher gross weights?

Why do so many truck operators withhold active support of their state truck associations when these groups are demanding higher gross weights for economic survival?

The more thought one gives to these questions, the more one is persuaded that overloading, lax enforcement of legal weight limits, and inadequate penalties for overweight are the root of the problem.

Because it is a problem of vital interest to the vast majority of truck operators who prefer to operate within the law but who want that law to be fair and equitable.

Of what concern is the law to most shippers? They would concern themselves with demands for higher legal weights if they had assurance that the higher grosses would mean lower freight costs. But operators cannot give such assurance. They say the shipper already is getting that lower freight rate because of overloading. All the shipper is interested in is the "rate per hundred." He is not interested in equality of gross weights as between adjoining states because he already has the equality—through overloading—that vitally interests him: rate-per-hundred equality.

So, because of overloading, the truck operator is at a disadvantage in getting the support of shippers for higher legal weight limits.

Of what concern is the law to those truck operators who view a legal limit as a floor and not a ceiling? Because penalties for overweight are not sufficiently severe, they are convinced that overloading is worth the gamble even where the authorities make a sincere attempt to catch violators. Their outrageous overloads put them ahead of the game even when they are periodically caught and penalized.

These operators are not interested in joining ranks with law-abiding operators, in supporting their state truck associations or in giving tangible aid to their efforts to procure higher gross weights. No matter what the legal weight, they will continue to exceed it.

Such is the legislative assistance problem caused by overloading. But what is the cure? There seems to be no other cure but severe legal penalties for overweight and strict and active enforcement. The penalties, after providing a reasonable tolerance for inevitable error in exact distribution of payload weight over axles, should be so

punitive for excessive overweight as to hurt the violator where it hurts him most: in the pocketbook. Only then will the chronic violators come to a swift realization that they should unite with others to procure weights that will keep them profitably in business when observed legally.

Then, when rates are adjusted to legal weights, the co-operation of shippers in legislative efforts should follow as a natural expression of self interest. They will see that higher grosses will reflect themselves either in lower rates, or in maintenance of rates when operating costs are on the increase.

The elimination of overloading as a disturbing influence on rates and on industry and public relationships should also reflect itself in the growth of state truck associations. Today the membership of these associations includes only a fraction of the truck operators who should be personally connected with the undertakings of these associations. But once legal limits are strictly enforced and violations severely penalized, it will be to the advantage of all operators to unite in advocating gross weights that are economically necessary and equitable. In fact, such unity and such numbers will be required to achieve the desired ends.

Unless someone can suggest a better method, the quickest way of getting irresponsible operators and shippers to assist in legislative reforms is to put sharp teeth into the overweight penalty provisions of existing laws and have them vigorously and strictly enforced.

What Is a Motor Truck Accident?

VARIOUS safety contests have rules which carefully define an accident. But there is a growing suspicion that contestants, their sponsors and judges do not always find it convenient to abide by the strict meaning of the definition.

Let us concede that the organizations conducting these contests are sincere in their efforts, that they want their rules adhered to, and that they do not countenance any shenanigans. We do not mean to reflect on their integrity.

But it is a fact that these organizations and their judges must rely upon the honesty of companies that enter the contests. There is no convenient way that these organiza-

(TURN TO PAGE 18, PLEASE)

New

FULLER TRANSMISSION OIL FILTER

Saves YOU Money on

PARTS LABOR DOWNTIME

Fits standard, large SAE
short length power take-
off opening (six-bolt)

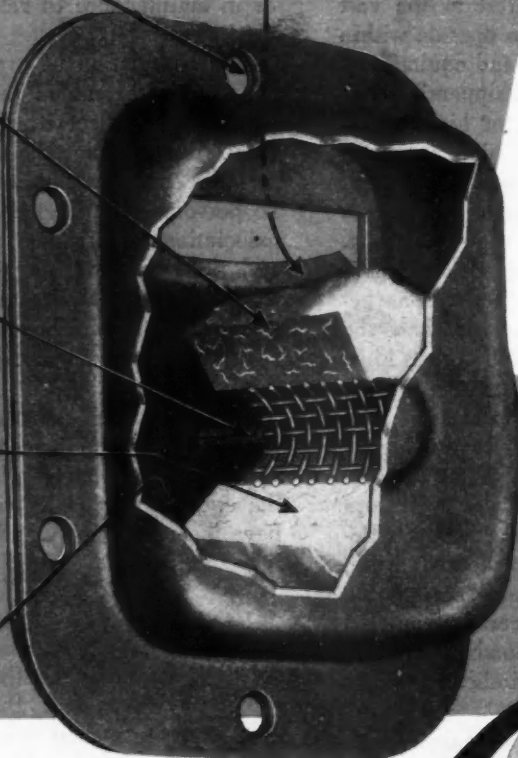
Pressurized oil
circulation through
filter

Removes grit, grime,
metal chips and other
abrasives

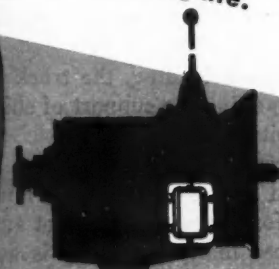
Oil returns to
transmission case
thoroughly cleaned

Replaceable filter
element

Sump for
heavy particles



by:
Removing grit and
other abrasives, thus
lengthening bearing
and bushing life.



FULLER MANUFACTURING COMPANY, TRANSMISSION DIVISION

KALAMAZOO 13F, MICHIGAN

Unit Drop Forge Division, Milwaukee 1, Wisconsin

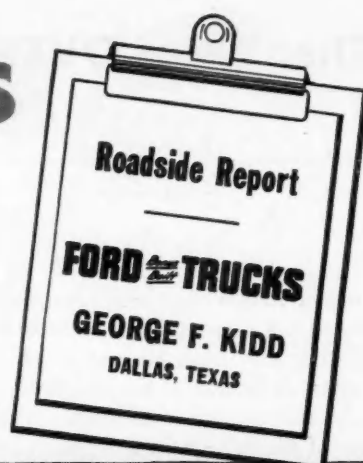
WESTERN DISTRICT OFFICE (SALES & SERVICE—BOTH DIVISIONS)

1060 East 11th Street, Oakland 6, California

Fuller

TRANSMISSION OIL
FILTER

"My FORD F-7 equals trucks with double its G.V.W. rating!"



"OVER ALL TYPES of roads, the performance of my 145-horsepower Ford F-7 equals that of trucks with double its G.V.W. rating," reports George F. Kidd who hauls for Frozen Food Express of Dallas, Texas. "The economy of operation is more outstanding with an average of 7 miles to the gallon of gas. My Ford Truck has proven that it is really 'Bonus Built.'"

Mr. Kidd is the exceptional BIG JOB enthusiast in that he has taken the time to write about its virtues. But thousands of others who will never set pen to paper are enjoying Ford performance and profiting from Ford economy. That goes not only for the BIG JOBS but for all 139-plus models down to the F-1 Pickup. All Ford Trucks have much in common. For example, all Ford Trucks have the Million Dollar Cab with Ford Level Action suspension. And they're all Bonus Built. That means they're built super-strong to last longer. Life insurance experts prove Ford Trucks last longer!



BUILT STRONGER TO LAST LONGER

USING LATEST REGISTRATION DATA ON 6,106,000 TRUCKS, LIFE INSURANCE EXPERTS PROVE FORD TRUCKS LAST LONGER!

ONLY THE FORD BIG JOB HAS ALL THESE FEATURES!

- ★ New 145-h.p. Ford V-8 engine for top performance.
- ★ Ford concentric dual-throat carburetor for more power, more economy.
- ★ New heavy duty 5-speed transmissions for operating flexibility.
- ★ Big Ford vacuum power-operated brakes standard for sure-footed stopping; rear 15-inch by 5-inch on F-7, 16-inch by 5-inch on F-8. Air brakes on F-8 at extra cost.
- ★ Ford Super Quadrax axles in series F-8—single speed type standard; 2-speed type with vacuum shift for performance flexibility optional. Single-speed Quadrax hypoid axle in series F-7.
- ★ Large diameter (10-inch) wheel bolt circle with 8 studs to allow for extra-strong hub construction.
- ★ Million Dollar Cab with Ford Level Action suspension for greater driving comfort.
- ★ Nationwide service from over 6,400 Ford Dealers.
- ★ Ford Bonus Built construction for long truck life.

Gross Vehicle Weight Ratings: F-8 up to 21,500 lbs., F-7 up to 19,000 lbs. Gross combination ratings: F-8 up to 39,000 lbs., F-7 up to 35,000 lbs.

The OVERLOAD

Continued from Page 15

tions or judges can check upon the manner in which these companies keep accident records and, in particular, upon whether they have been strict in their observance of the contest definition of an accident.

Is an operator consciously dishonest when he enters one of his drivers in a Driver of the Month contest and testifies that this driver has not had a single chargeable accident in 20 years? Conscious dishonesty would be extremely difficult to prove. But there is room here for a reasonable suspicion of unconscious dishonesty having its basis in ignorance of the meaning of what is a chargeable accident. What are the judges to do in such a case? It is something for the contest sponsors to ponder.

This emphasis on the impressiveness of large figures—10, 12, 13, 15 and 20 years of no-accident driving—may be due to a feeling that only a large figure can win an award. This feeling should not prevail. For a truck driver—in traffic 8 to 10 hr a day in all kinds of weather—to go just one year without a chargeable accident is a feat;

every additional year is a superlative achievement, and five years is to be looked upon as a modern miracle.

Once the impressiveness of these smaller figures is recognized more drivers may be entered in the Driver of the Month contests, the state sponsors of which today have to beat the bushes for entries.

The national contests in which fleets are awarded certificates for their safety accomplishments suffer from the same, shall we say, unconscious dishonesty that characterizes the driver contests. The more rigid and uncompromising a fleet is in the assessment of accident responsibility among its drivers the higher its accident ratio and the worse it shows up in the contest records. Such fleets have their doubts about the fleets with low ratios. This doubt is so pronounced in the case of many fleets with excellent safety programs and safety supervision that they refuse to enter contests because they know they will show up badly. And how can the safety director of such a fleet, spending thousands of dollars to reduce accidents, justify his fleet's showing to a management that looks only at comparative figures?

But, state and national contests notwithstanding, the important thing is for individual fleets to be honest with themselves in the handling of safety contests and safety programs within their own operations. It is fine to win contests but the really important thing is to keep cutting down the fleet's accident ratio and giving due recognition to those who help in the cutting.

DETROIT DISPATCH

Continued from Page 6

some companies are absorbing freight charges to meet competition, and a reduction in the basic price of steel later this year is thought to be a possibility.

New V-8 Planned

We have a report that one of the large independent truck producers is working on a new V-8 truck engine. It is not known whether it will be ready for use in new models, which will be announced later this year, but from what suppliers tell us about advance commitments, it is not considered likely. The engine is thought to be an overhead valve job in line with the trend in the industry, but there has been no official confirmation as yet.

Two Automatic Transmissions

Borg-Warner Corp. states that two types of automatic transmissions soon will be offered to automobile manufacturers and that prospects are good for adoption toward the end of this year. The company did not reveal which manufacturers are interested, but it is known that Ford has been working closely with the company for a long time and it is considered likely that Studebaker, Kaiser-Frazer and possibly Hudson and Nash may be prospects.

Ordnance Maneuvers

GMC Truck & Coach Div. of General Motors has been awarded an order totaling approximately \$2.8 million for replacement truck engines for the Army. The engines are for replacement use in the war-time 6 x 6 military truck. They are the 270 cu. in. powerplant which was standard in these trucks during the war and are basically the same as GMC uses in its model 450 truck.

Army Ordnance is also looking for a source for about 700 5 ton 6 x 6 military trucks per month. Actually, the funds are not available for anything like that production figure, but Ordnance would like to have a manufacturer tool up for limited production so that output could be stepped up in case of an emergency. It is estimated that funds available for the rest of this fiscal year would permit purchase of only 300 to 600 units and the same number could be procured under the 1950 budget.

Truck manufacturers generally are not in favor of using 24-volt ignition. However, the House Committee has suggested that it be used on perhaps one truck in 10. One manufacturer, at least, counters that if 24-volt systems are to be used at all they should be on all vehicles in the interest of lower costs.

Federal Improvements

Federal Motor Truck Co. soon will announce a 26,000-lb. gvw diesel model. The truck will be powered with a Hercules 426 cu. in. engine which will turn up to speeds of 2600 rpm. The unit, which has a 50,000 lb. gtw, has been under test for several months.

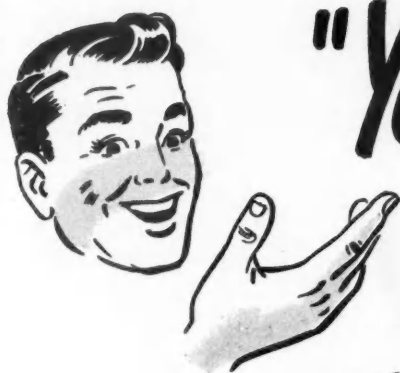
Meanwhile driver vision has been increased 30 per cent by means of a new windshield design now in production on all conventional cab model Federal trucks. The glass area has been greatly increased, and all glass is now inserted entirely in rubber. The adjustable feature has been eliminated, insuring weathertight construction and three ventilators in the cowl provide adequate air distribution.

More Vehicles for Canada

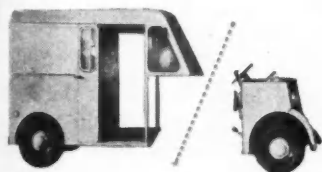
The Department of Trade and Commerce of the Canadian government has increased the allowable number of motor vehicle imports from the United States by 25 per cent. The ruling applies to trucks under 16,501-lb. gvw and to manufacturers not having plants in Canada. Special permits for heavier vehicles are available if need is demonstrated.

Continentials for Del Mar

Continental Motors has confirmed a report that it will supply the 64 horsepower engine for a new low-priced automobile to be produced by Del Mar Motors, Inc., San Diego, Calif.



"You're on the ball with DelivR-all"



**More Deliveries —
Faster!
Cheaper!**

You've never seen *real* efficiency in a delivery truck until you've seen the new Marmon-Herrington DELIVR-ALL in action.

Here's the only delivery truck with a low, close-to-the-ground floor—*straight through from front to back* . . . lots easier to get in and out—lots faster to load and unload.

Here's a short-wheelbase truck with the highest pos-

sible ratio of cubic capacity to wheelbase . . . high, wide, spacious interior puts every part of the load within easy reach—banishes awkward stooping, stumbling and fumbling.

Here, in fact, is a truck with a whole host of important convenience and performance features . . . standing or seated driving—two flexible speed ranges—detachable and interchangeable front-wheel-drive power unit—and many others.

Yes, you're really "on the ball" with DELIVR-ALL. Let your Marmon-Herrington dealer demonstrate—with *your own loads, on your own routes.*

MARMON-HERRINGTON COMPANY, INC. • INDIANAPOLIS 7, INDIANA



*DelivR-all delivers
the Goods!"*

Time Out for PLAY



by
BORIS RANDOLPH

Shop Talk

Complete the right and left words on each line below, according to their respective definitions, using exactly the same letters for each pair of words.

S				1	T				
	R			2		A			
		O		3			L		
			P	4					K

LEFT

- Transmitted 1
Counterfeit 2
Not rapid 3
Retain 4

RIGHT

- X's
To turn into pulp
Night birds
Look slyly

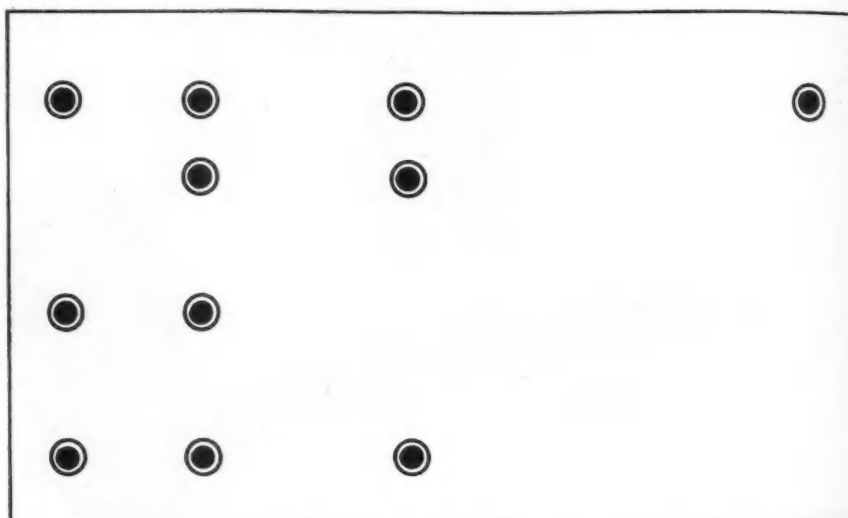
Don't Be Round Tripped

A bus leaves Newville every morning at 9 o'clock and starts for Oldtown, traveling at a uniform rate of speed. At exactly the same time another bus leaves Oldtown and heads for Newville, also traveling at a uniform rate of speed. Both buses travel on the same highway, pass each other 30 miles outside one of the terminals, reach their destination, rest 15 minutes, start back, at the same individual speed, and pass each other 20 miles outside the other terminals. How long is the round trip?

DON'T PEEK

Solutions Will Be Found on Page 138

Truckin' at the Country Fair



A number of truckloads of assorted barnyard creatures recently arrived at a country fair and were separated into different pens. They consisted of cows, goats, sheep, horses, mules, hogs, geese, chickens, turkeys, ducks, and rabbits.

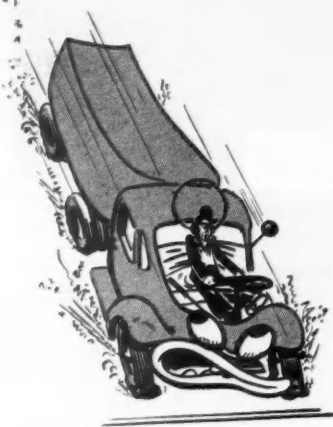
Each circle below represents the location of one of the pens within a large enclosure. The fences separating all the pens inside the enclosure formed four straight lines. Can you draw these four lines?

Truck-Trailer Combinations

Each of the words and names below begins with the name of a well-known make of truck or trailer. How many of them do you know? Just complete each word according to the definition.

1. Arrange in a new way
R E O ————
2. A famous ball team
D O D G E ———
3. A kind of coat
M A C K ————

4. A college in New Hampshire
D A R T ————
5. On ocean wave
W H I T E ———
6. A bird
L I N N ———
7. A New York university
F O R D ————
8. A form of government
T E C ————
9. Afflicted
S T R I C K ———
10. Science of language
G R A M M ———



Conference Corner

Question:

What Are the Causes of Brake Noise and How Can It Be Controlled?

Smaller Brakes and Larger Engines Contribute to Increase in Noise

by J. V. Bassett
Chief Engineer

Raybestos-Manhattan, Inc.

"We do know that noise can be caused by overloading or excessive speed, or any components of the brake foundation system becoming loose in service. We know further, that improper contact causing localized high pressure areas frequently have been the source of considerable noise, as well as brakes which are sadly in need of adjustment. These always complain when applied.

"I believe it is a recognized fact that brakes today are more noisy than they were some years ago, though we know for a fact that we have had brake squeal in the transportation industry ever since the first bus was built, and the problem is getting more noticeable all the time.

"One of the contributing factors to the increase in noise may be the fact that brakes on buses are getting smaller and smaller, due to the smaller diameter base tire that is used in order to lower the step height and make it more easily accessible to the female traveling public. On the other hand, engines have been upped in torque and performance, and today the road speed and average speed of buses is considerably greater than it was 15 years ago, and the loads they are carrying are considerably greater. This in itself may be a contributing factor to our present series of complaints.

"It is the writer's idea that if all the interested parties, that is, the builders of axles, vehicles, brakes, and brake linings, could pool their interests and experience, that an earlier solution could possibly be found and far more economically arrived at than the present system of everybody going his own individual way."

"This question of brake noise is one that is very much in the fore at present, and apparently up to the present time has been an insurmountable object to all of the contributors to the transportation industry, that is, the manufacturing contributors.

Anything Causing Vibration Will Develop Squeal

by E. L. Miller
Chief Engineer

Dayton Steel Foundry Co.

"Squealing is the result of vibration; consequently anything that will cause vibration is a potential source of the malady. Discrepancies which might cause this condition are many and at times they are hard to locate. A thorough check of the entire wheel and brake installation may be necessary.

"Improperly fitted brake shoes will promote squealing by developing concentrated pressure areas possibly at the heel or toe of the shoe. Trouble may start from linings which have become glazed. It is well to check with the lining manufacturer to insure that it is not too hard for the drum material. Looseness in the wheel bearings, brake anchor pins, shafts or other linkage parts may create howling. If the backing plate or brake spider is not rigid enough to resist flexing under the braking stress, squealing may be anticipated. Out of round or eccentric brake drum is quite conducive to this disturbance. In fact a drum of high Brinell reading will squeal quicker than one of softer consistency. Collection of dust on the braking surface of the drum has been known to cause squeaky brakes. This can be relieved by slotting the drum to allow the exit of the dust.

"We believe that the trouble can be minimized by bolting the drum as near to the braking surface as possible and reducing the offset to the practical limit. Brakes will howl occasionally in damp weather or at the beginning of a trip. The noise many times disappears after the vehicle gets under way and the dampness has been overcome by the generated heat."

(TURN TO PAGE 30, PLEASE)

FROM THIS CARTON COME THE . . .



. . . that add to the efficiency of your

RE-POWERING JOBS!

Ramco patented, exclusive piston ring features such as "Double Life" Principle, provide the kind of job that makes for top performance in your trucks and fleets.

To stop oil pumping and control blow-by the Ramco 10-Up Ring combination depends on piston stabilization, not harsh pressure.

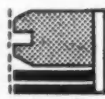
Piston Stabilization eliminates needless cylinder wear due to harsh pressures. Thus it insures piston ring performance that *conserves power and stays efficient longer.*

"DOUBLE LIFE" PRINCIPLE

During break-in, gentle cast iron ring pressure permits Ramco 10-Up Piston Rings to seat surely without harsh pressure (top drawing). Afterward (lower drawing) the inner ring approaches and finally contacts both iron and steel Spiro-Seal Rings for positive, gentle oil-and-power control and long life—"Double Life"—all stabilized by the innerspring ring.



Gentle Break-in



Long Run

CALL for **RAMCO 10_{up}**

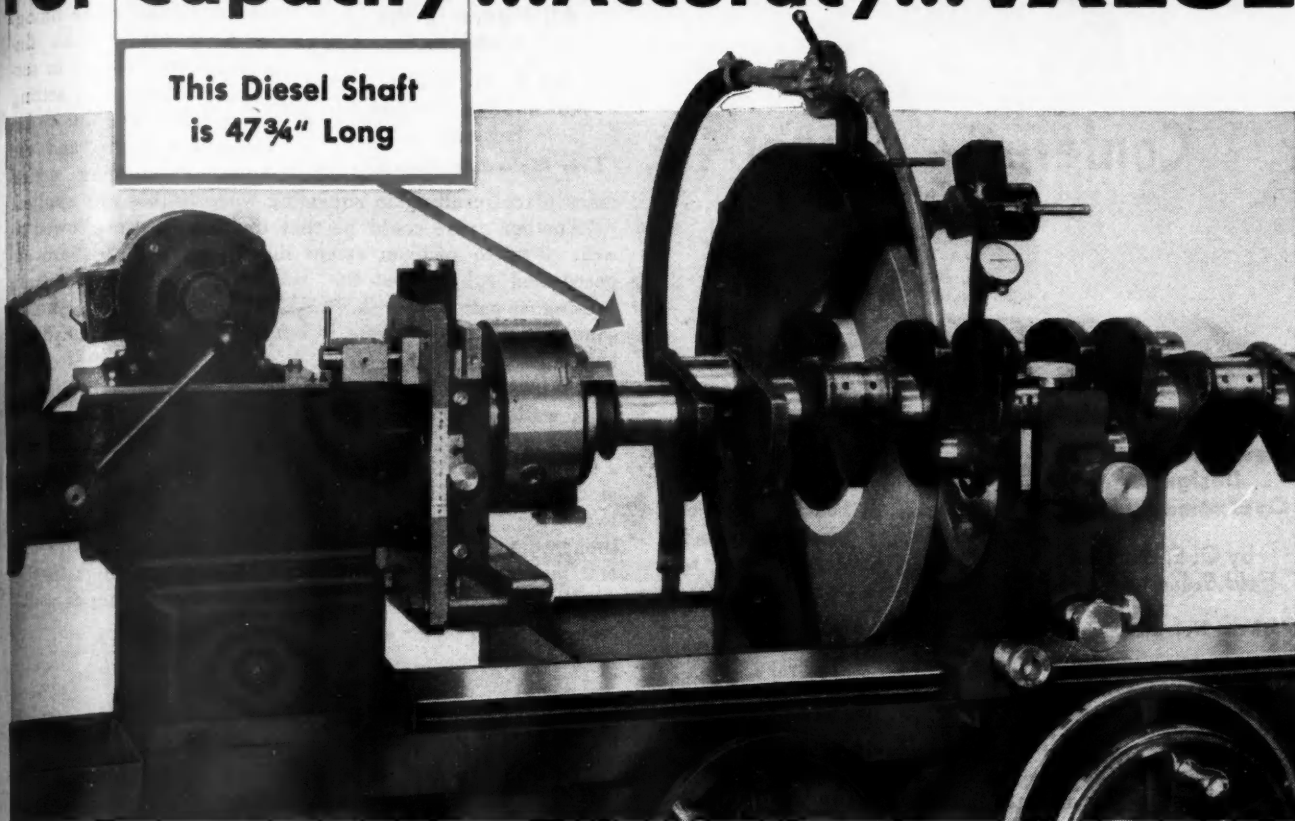
the Piston Rings that are ideal for all
FLEET and TRUCK RE-POWERING JOBS. . . .

Re-Bore or Re-Ring!

Products of RAMSEY CORPORATION, 3710 Forest Park Blvd., St. Louis, Mo. RAMCO Piston Skirt Stabilizers . . . Seal-Tite Piston Rings . . . Oil-Tyte Piston Rings . . . Spiralex Retaining Rings . . . Spiro-Seal Grease Seals and Dust Seals . . . Famous RAMCONizer Machine for reshaping collapsed piston skirts . . . Ramco 3-Up Parts Cleaner. Factories: St. Louis and Sullivan, Mo.; Fruitport, Mich.; Toronto, Ont., Canada. R 2736 F.O.

For Capacity...Accuracy...**VALUE**

This Diesel Shaft
is 47 $\frac{3}{4}$ " Long



... get a **VAN NORMAN**

No. 448 Crankshaft Regrinder

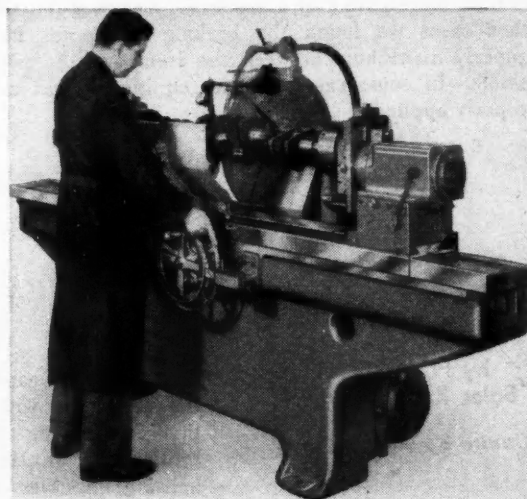
\$4495.00*

buys the No. 448 that precision-grinds shafts 48" long! Yes, it's actually heavy and big enough to take a truck or tractor shaft that long. What's more, it has 18" swing, and a 24" wheel. Plus other quality features like these:

Van Norman machine-tool rigidity... close grained cast-iron base with 3-point support and deep ribbing for top vibration-resistance. *Precision anti-friction bearings* on headstock and footstock. *Standard equipment* includes fixtures for grinding mains and pins between centers. 6" and 8" chucks are available to eliminate recentering of shaft.

Get in the "daily grind" for big profits! Have your shafts precision-ground on a No. 448, or see your jobber today about a Van Norman Grinder for your own shop. Van Norman Company, Springfield 7, Mass.

*U.S. price with standard equipment. Canadian price \$5400.00 FOB Springfield, Mass. Prices subject to change without notice.



EASE OF OPERATION hits new high with centralized "Rapi-Matic" controls. Operator can handle more jobs per day... more easily... more accurately.

WORLD'S MOST COMPLETE LINE, BUILT BY WORLD'S FOREMOST NAME IN AUTOMOTIVE SHOP EQUIPMENT: Boring Bars, Brake Service Equipment, Crankshaft Regrinders, Clutch-Plate Grinders, Con-Rod Borers & Grinders, Head Grinders, Piston Grinders, Wet Honers, Valve Regrinders.

**The Best-Equipped Shop
Gets the Business!**

that's why *"It Pays to Van Normanize"*



Conference Corner

Continued from Page 27

New Materials and Designs May Overcome Problems

by O. E. Johnson
Field Sales Manager

Timken Detroit Axle Co.

"The industry as a whole has recognized the 'noisy brake' as being a problem and much time, energy and money have been spent to try and overcome this problem.

"The causes and cures are varied. Brake engineers are limited as to the size of brakes that can be installed in commercial vehicles and with the advent of larger engines, greater speed requirements and heavier loads, their problems have been multiplied. Despite this fact, however, the design and production of more efficient brakes and the use of better materials is enabling the industry to conquer many of the common problems that have been with us for some time.

"We have, of course, had a great deal of experience with various existing brake designs as a result of complaints about squealing and for other reasons. In some cases, the troubles were cured as a result of changing the liners. In other cases we found the braking effort was not being properly distributed between the front and the rear of the vehicle. In some cases, booster equipment was not being properly applied."

Causes of Squeal Are Difficult to Analyze

by H. W. Small
Sales Representative

Gunite Foundries Corp.

the mechanism—and yes, even in the brake drum.

"The drum, of course, is a natural sounding board and tends to amplify the noises actually beginning in other parts of the brake setup.

"Rigidity in all parts of the mechanism tends to prevent vibrations and from this standpoint we know our ribbed drum with its emphasis on rigidity, certainly tends to overcome noises that might have occurred with other types of drums.

"From the same point of view, lack of proper maintenance in brakes which might allow parts to become worn, loose, and therefore a source of vibration should certainly be looked upon as potential noisemakers."

"The causes and cures are varied. Brake engineers are limited as to the size of brakes that can be installed in commercial vehicles and with the advent of larger engines, greater speed requirements and heavier loads, their problems have been multiplied. Despite this fact, however, the design and production of more efficient brakes and the use of better materials is enabling the industry to conquer many of the common problems that have been with us for some time.

"The causes and cures are varied. Brake engineers are limited as to the size of brakes that can be installed in commercial vehicles and with the advent of larger engines, greater speed requirements and heavier loads, their problems have been multiplied. Despite this fact, however, the design and production of more efficient brakes and the use of better materials is enabling the industry to conquer many of the common problems that have been with us for some time.

"The causes and cures are varied. Brake engineers are limited as to the size of brakes that can be installed in commercial vehicles and with the advent of larger engines, greater speed requirements and heavier loads, their problems have been multiplied. Despite this fact, however, the design and production of more efficient brakes and the use of better materials is enabling the industry to conquer many of the common problems that have been with us for some time.

"The causes and cures are varied. Brake engineers are limited as to the size of brakes that can be installed in commercial vehicles and with the advent of larger engines, greater speed requirements and heavier loads, their problems have been multiplied. Despite this fact, however, the design and production of more efficient brakes and the use of better materials is enabling the industry to conquer many of the common problems that have been with us for some time.

"The causes of brake squeal are varied, persistent, and difficult to analyze.

"We know of cases where the fault lay with vibrations beginning in the brake shoe, in the brake housing, in other parts of

Linings, Drums, Dirt, Improper Adjustment, All Figure in the Problem

by E. H. Watts
Automotive Division Engineer

Erie Malleable Iron Co.

takes place resulting in squealing when brakes are applied.

"Another cause could be that the linings are allowed to wear down to such an extent that the rivet heads are exposed and rub against the braking surface of the drum causing so-called squeal. Also, the brakes might tend to squeal if the brake lining is not concentric with the drum braking surface.

"I also believe that drums which have air holes in the back wall and/or are not provided with dust shields, would have a greater tendency to squeal than those which have a solid wall and dust shields. Drums which are open to the elements allow small stones, dirt, water, etc., to enter between the lining and braking surface. I have seen brake linings on trucks and trailers which were covered with dirt and in which small stones were imbedded. Linings in this condition would not only squeal, but score the drum as well."

Improper Drum-to-Lining Contact is Major Cause

by A. S. Van Halteren
Development Engineer

Motor Wheel Corp.

"The direct cause of brake drum squeal is the fact that it is impossible to maintain good contact between the drum and the lining, under brake heat and pressure.

"The drum ring expands under heat in proportion to the mass distribution except as the expansion is restricted by the drum back. The restriction of the drum back combined with unequal distribution of metal in the drum ring results in a warped braking surface which changes throughout the brake application. The brake heat distribution in the brake shoe usually causes the shoe to curl or reduce the radii at the face of the lining. In addition, the metal distribution in the brake shoe as a rule tends to produce high pressure over the center line of the shoe.

"In other words, it is practically impossible with the current brake and drum designs to approach close to 100 per cent contact between the drum and the brake lining throughout the brake stop.

"The restricted contact between the drum and the lining may result in audible vibration or squeal.

"A high coefficient of friction brake lining increases the tendency for brake noise because less pressure is required. A low coefficient brake lining tends to reduce noise because the increase in pressure required improves the contact area and, therefore, tends to dampen the vibration or squeal.

"Increasing the flexibility of the drum and shoe improves the area of contact between the drum and lining but at the same time tends to increase the rate of vibration so as to take it into an audible range.

"Increased rigidity of the drum and brake parts reduces the area of contact, but the rate of vibration is reduced and may be either in a less audible range or in a chatter or rough range.

"The ultimate solution depends on developing a drum and brake which will permit the drum and lining to approach 100 per cent contact throughout the brake stop."

(TURN TO PAGE 97, PLEASE)

SPHER-O-HONED

BOWER BEARINGS ARE



SOMETHING EVERY BEARING USER SHOULD KNOW

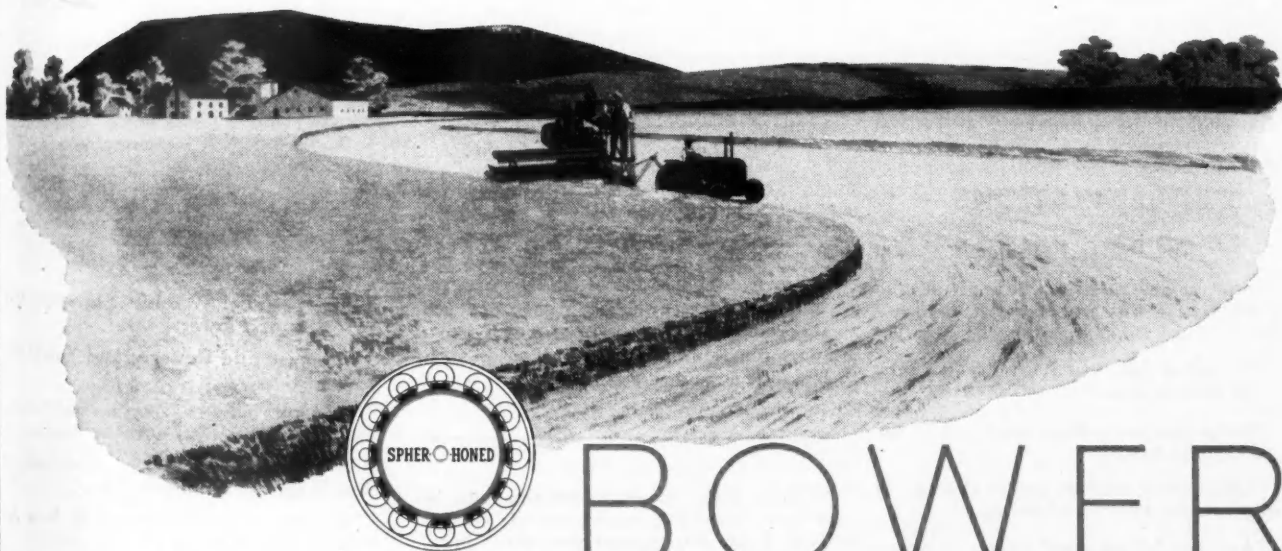
The meaning of the word Spher-O-honed is something that every bearing user should know.

It sums up important advantages that make Bower bearings unique . . . truly outstanding in the tapered bearing field. It stands for such different and greatly improved design features as spherical roll-ends and flange surfaces, the large oil groove; plus the most advanced production techniques that make possible the smooth, hard, durable races that you find in Bower bearings. In short, Spher-O-honed really means smoother performance, greater dependability, and longer bearing life for your product.

Analyze your own bearing problem in the light of these significant advantages. You'll find in almost every case that whatever your bearing requirements, Bower bearings fill them completely . . . that Bower bearings are your best bearing buy.

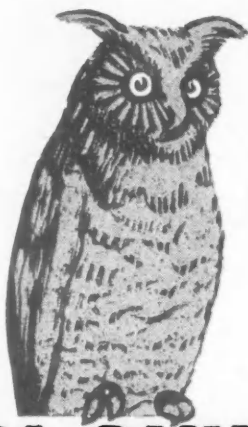
For more complete information, write for the new Bower engineering catalog.

BOWER ROLLER BEARING COMPANY • Detroit 14, Michigan



BOWER

ROLLER BEARINGS



CCJ QUIZ



by G. W. BAHL

A radio comedian was telling his audience about his new car and facetiously stated his wife always cooled the motor by stripping the gears. We know our readers aren't that gullible but—some of the questions below should be read twice before you answer. Each question is worth 10 points with 70 average, 80 better, 90 very good and 100 quite unusual. Answers on page 108.

1

State regulations governing the issuance or refusal of Certificates of Convenience and Necessity for common carriers had their origin in 1914 when Pennsylvania amended its existing state law. Today all states but one have similar statutes. Check the sole exception in the list below.

- ☐ Alabama ☐ New Mexico
- ☐ Washington ☐ Vermont
- ☐ Delaware

2

The Motor Carrier Act of 1935 which became Part II of the Interstate Commerce Act marked the actual start of Federal

JOBSERVATIONS

by Buster Rothman

Success is making hay from the grass that grows under other people's feet.

It's what you learn after you know it all that counts.

Keep moving—flies never settle on an electric fan.

The easiest way to get to the top is to go to the bottom of things.

Another bit of good advice is never to start anything you can't stop.

Consider the oyster: with a little grit it produces a pearl of great value.

motor carrier regulation but the powers from which this legislation sprang lay dormant for many, many years, i.e., Article I of the Constitution of the United States. Which Section of Article I covered this authority?

- ☐ Section 3 ☐ Section 8
- ☐ Section 6 ☐ Section 10

3

Commercial vehicles enjoy the distinction of hauling everything from A to Z. How many articles, beginning with the letter K, can be transported by motor carriers?

- ☐ more than 30 ☐ more than 120
- ☐ more than 60 ☐ more than 150
- ☐ more than 90

4

A new motor coach, accommodating 10 more seated passengers than conventional coaches and providing room for 55 standees has recently been put into operation. Based on average passengers per private car, this single coach can carry the occupants of

- ☐ 31 cars ☐ 64 cars
- ☐ 42 cars ☐ 75 cars
- ☐ 53 cars

5

Brake drums in heavy duty service are subject to severe flexing stresses by the shoes and high temperatures which sometimes run to over 1000 deg. Ribs on such brake drums are used for



These pithy epigrams are worth their weight in gold if used properly in the fleet field. We suggest that these messages be reproduced in large type—on the blackboard or on the shop bulletin board—or used in letters and news bulletins to employees.

- ☐ cooling fins
- ☐ better friction between metal and lining
- ☐ stiffening the drum
- ☐ better lining life

6

Gaskets may appear an insignificant item for fleet vehicles so perhaps the best way to stress their importance is to establish how many are used on an average vehicle. The quantity is

- ☐ over 20 ☐ over 40
- ☐ over 25 ☐ over 50
- ☐ over 30

7

Oil seals also play an important part in the functioning of the larger commercial vehicles. Check the correct column covering average vehicle usage.

- ☐ 5 ☐ 14 ☐ 24
- ☐ 9 ☐ 19

8

Bonded brake linings were introduced in 1945 and today the idea is gaining much favor. This method deals with

- ☐ a guarantee given by the manufacturers assuring predetermined mileage
- ☐ processing rubber with the lining material
- ☐ fastening the lining to the shoes
- ☐ aging the material before fabrication

9

Shot-peening was introduced to commercial production in 1929 and today is widely used in the field of springs, gears and axles. This process is used to

- ☐ remove burrs and sharp edges
- ☐ give smooth finish for paint
- ☐ improve life of metal
- ☐ remove rust

10

We all know the many parts of a vehicle made from steel, rubber and glass. Where else is porcelain used beside in spark plugs?

- ☐ body trim
- ☐ fuel filters
- ☐ mufflers
- ☐ cylinder liners

DRIVE SLOWGANS

by Buster Rothman

Sign: Slow! Winter Showers May Bring Your Flowers.

Be Wise and Beware, and You'll Get There!

Just one snifter, or (a short snort) may wind you up in traffic court.

Nix all hearse-play on your run, or they'll cart you back in one.

You'll Live More Years if You Attend to your Gears.

A Word to the Wise: Use Both Your Eyes!

Signal Giving Prolongs Living.

COMMERCIAL CAR JOURNAL, May, 1949



CCJ NEWSCAST



STUDEBAKER'S NEW ARMY JOB

In response to Ordnance requests for bids on military trucks, Studebaker has just released details of a new 2½-ton 6x6 featuring several unusual design features particularly from the standpoint of accessibility. The grille guard, radiator, engine, clutch and transmission, for instance, may be removed as a unit without removing any sheet metal, not only speeding replacement but facilitating bench tests as well. Steering gear, clutch and brake pedals and master cylinder are located outside the frame. All brake parts, wheels hubs and bearings are interchangeable between front and rear. Load distribution is equal on all wheels and turning radius is 146 ft. The 255-lb spare tire assembly can be changed easily by one man by means of a built-in hoist arrangement.

TENNESSEE GETS TOUGH

Since recent defeat of a Tennessee bill to increase truck weights, enforcement agencies are taking very strict measures against overweight offenders. These measures include unloading at the spot to legal limit, maximum fines, and revocation of reciprocal agreement for out of state operators.

Low-Slung Front-Wheeler



The floor of this 5-ton truck is only 16½ in. from street level not only permitting easy loading but gaining 2 ft in additional head room. This was accomplished by the Joe Fisher Dodge-Plymouth dealer organization in Portland, Ore., by conversion of a Dodge four-wheel-drive Power Wagon, using only the front wheels for drive. This permitted use of an exceptionally wide and unusually low rear axle requiring very little wheel housing. Now the Fisher organization plans a regular production of about 10 to 12 such units each month.

COMMERCIAL CAR JOURNAL, May, 1949

DATES AND DOINGS

MAY 9-13—Council of Safety Supervisors and Equipment and Maintenance Council, ATA, Annual Spring Meeting, Melbourne and Sheraton Hotels, St. Louis, Mo.

MAY 13—Motor Vehicle Assn. of Georgia Annual Business Meeting, Ansley Hotel, Atlanta, Ga.

MAY 16-20—Fleet Supervisors Training Course, Northeastern University, Boston, Mass.

MAY 19—Rhode Island Truck Owners Assn. Annual Meeting, Narragansett Hotel, Providence, R. I.

MAY 19-21—Washington Motor Transport Assn. Convention & Truck Rodeo, Olympic Hotel, Seattle, Wash.

MAY 25-27—Association of American Battery Manufacturers Spring Meeting, French Lick Springs, Ind.

MAY 28-31—Texas Motor Transport Assn. Annual Convention, Buccaneer Hotel, Galveston, Texas.

MAY 30-31, JUNE 1—Mid-year meeting, National Tank Truck Carriers, Inc., Hotel Cosmopolitan, Denver, Colo.

JUNE 1-3—President's Highway Safety Conference, Departmental Auditorium, Washington, D. C.

JUNE 3-4—Associated Motor Carriers of S. D., Annual Convention, Hotel Carpenter, Sioux Falls, S. D.

JUNE 5-10—Society of Automotive Engineers, Summer Meeting, French Lick Springs, Ind.

JUNE 6-10—Fleet Supervisors Training Course, University of Richmond, Richmond, Va.

JUNE 16-17—Fleet Supervisors Training Course, Penn State College, State College, Pa.

JUNE 16-18—Utah Motor Transport Assn. State Convention, Newhouse Hotel, Salt Lake City, Utah.

JUNE 20-24—Fleet Supervisors Training Course, Marshall College, Huntington, W. Va.

JUNE 24-26—Maine Truck Owners Assn. Outing-Convention, The Belgrade Hotel and Cottage Resort, Belgrade Lakes, Maine.

JUNE 25—Pennsylvania Motor Truck Assn. Annual Meeting, Penn Harris Hotel, Harrisburg, Pa.

JULY 2-4—Motor Transport Assn. of So. Carolina, Annual Convention, Oglethorpe Hotel, Savannah, Ga.

JULY 4-8—Fleet Supervisors Training Course, Northwestern University, Evanston, Ill.

JULY 11-15—Fleet Supervisors Training Course, Gonzaga University, Spokane, Wash.

JULY 18-22—Fleet Supervisors Training Course, Montana State College, Bozeman, Mont.

JULY 29-31—North Dakota Motor Carriers Assn. Annual Convention & Rodeo, Hotel Gardner, Fargo, N. D.

AUG. 12-13—Idaho Motor Transport Assn. Rodeo, Fairgrounds, Boise, Idaho.

AUG. 15-19—Fleet Supervisors Training Course, University of Washington, Seattle, Wash.

AUG. 19-20—New Mexico Motor Carriers Assn. State Truck Rodeo, Albuquerque, N. M.

OCT. 15-20—Baking Industry Exposition, Municipal Auditorium, Atlantic City, N. J.

OCT. 21-26—American Trucking Associations, Inc., Annual Convention, Hotel Statler, Boston, Mass.

LEGISLATIVE DEVELOPMENTS

Kansas has approved bills increasing length of tractor semi-trailers to 50 ft and other combinations to 60 ft and at the same time has abandoned its gross weight formula of 700 (L plus 40) in favor of the recommended AASHO standard. Maryland has increased its weight formula to 100 (L plus 40) which in effect increases gvwt for five-axle combinations from 63,750 lb to 90,000 lb. Pennsylvania has so far tabled its size and weight bill HB-560.

Bills to liberalize or enact reciprocity agreements have been introduced in seven states—Indiana (passed), Iowa, Maryland, Nebraska, New Mexico, Washington and Wisconsin.

Watch out for legislative moves to permit local vehicle taxation by cities and counties in these 13 states—Delaware, Indiana, Michigan, Missouri, New Mexico, New York, North Carolina, North Dakota, Oklahoma, Pennsylvania, Tennessee, Utah and West Virginia.

LIGHTER WEIGHT DIESELS

Weight reductions of from 6½ to 8 per cent in Cummins Diesel Engines are made possible by a new series of lightweight parts, available as optional equipment. The weight reductions range from 151.4 lbs in Model HRB-600 to 193.8 lbs in Model HB-600.

It is estimated that the small additional cost of the lightweight parts on the original equipment would be recovered within 3 to 4 months in normal operation.

GAUSSOIN BUYS NICKLE PLATE

Purchase and reorganization of Heyser's Nickle Plate Line, Portland, Ore., was announced April 1 by Julius Gaussoin, Portland, president of the new corporation.

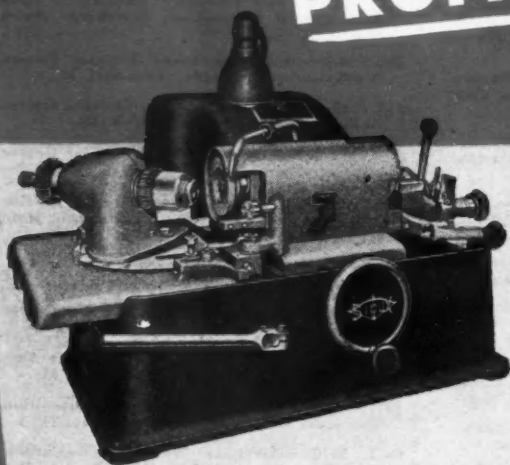
The firm will be known as "Nickle Plate," and will operate as a hauler of general freight between Portland, Seattle, and way points.

Other officers of the corporation will include J. E. Rollwage, treasurer, and

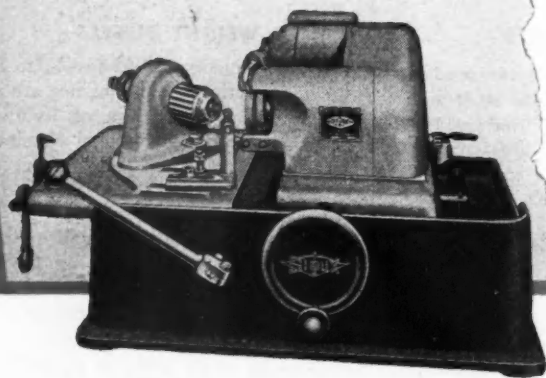
(TURN TO PAGE 152, PLEASE)

SIOUX

the *Modern* way
to **BETTER**
PROFITS



No. 645—Wet Grinder for valves 15°, 30°, 45° and 60° angle—Valve Ends, Tappets, Rocker Arms.



No. 622-N—Wet Grinding built in. Eliminates heat and distortion. For valves 15°, 30°, 45°, and 60° angle. Chucking capacity 1/4" to 3/8" diameter inclusive.



No. 682—Wet Grinder for valves 1/4" to 1 1/4" stem, up to 18" long and 6" diameter, 15° to 90° angle. Produces finest finish and factory precision.

A VALVE FACE GRINDING MACHINE TO FIT YOUR NEED —WHETHER LARGE OR SMALL

Space does not permit complete details—however they are available at your nearest SIOUX Distributor.

These three units comprise a size and price to fit your needs. They are backed by over 33 years of experiment, research and designing, as well as on-the-job experience of thousands of users throughout the world who have given them the most critical tests.

Sold Only through SIOUX Distributors

STANDARD THE
ALBERTSON & CO., INC.



WORLD OVER
SIOUX CITY, IOWA, U. S. A.

FITZGERALD GASKETS

STAND THE GAFF . . .

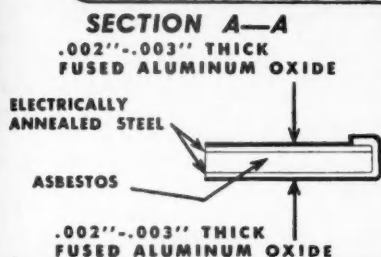


The new FITZGERALD metallic aluminum-fused-oxide steel asbestos gasket*

The strength of steel . . . specially tempered for compressibility and resiliency . . . is combined with aluminum's resistance to rust and corrosion in this new line of Fitzgerald gaskets which withstand highest compression tests where others fail. There's a Fitzgerald gasket for every engine.

The Fitzgerald Manufacturing Company, Torrington, Conn.

*T. M. Reg. U. S. Pat. Off.

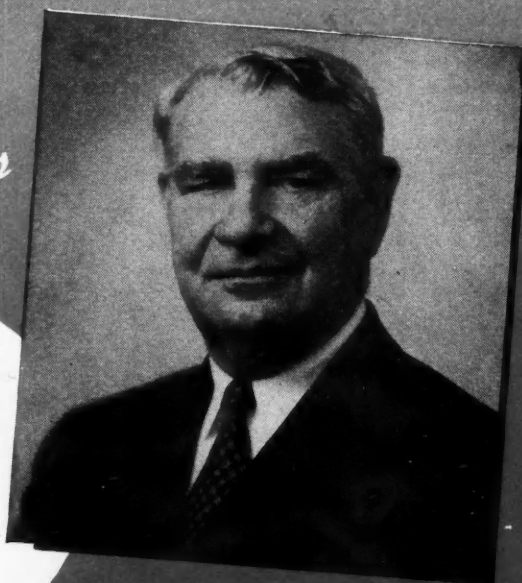


Gasket craftsmen for 43 years

Says P. J. Fitzgerald . . .

Our metallic aluminum-fused-oxide steel asbestos gaskets have been tried and proven for many months. Therefore, I can say to you with all sincerity that we have never made a better gasket. We have kept pace with the industry for forty-three years and feel safe in saying to our customers that when better gaskets are made you can depend on Fitzgerald to make them.

P. J. Fitzgerald President



FITZGERALD
gaskets
SINCE 1906

LAUGH IT OFF



Road Driver: "And now, doctor, since I've told you I am going to marry Jane, there's something I want to get off my chest."

Doctor: "You just tell me about it, my boy."

Road Driver: "It's a tattooed heart with the name Mabel on it."

CCJ

RATE CLERK: "WHERE'D YOU GET THAT DATE? BUCK TEETH, CROSSEYED AND BOW-LEGGED?"

BILL CLERK: "YOU NEEDN'T WHISPER—SHE'S DEAF, TOO."

CCJ

Salesman: "Can I interest you in an attachment for your typewriter?"

Tank Fleet Operator: "Nothing doing. I'm still paying alimony because of the attachment I had for my last one."

CCJ

In order to get fresh produce, the Maintenance Superintendent had a working agreement with a local farmer, who supplied him with three dozen eggs each week. One week the farmer found he had accidentally sent one egg too many. Determined not to lose on the deal, he called at the house. "Mr. Jones," he said, "I sent along one egg over the three dozen this week."

Maintenance Supt.: "Surely you're not going to worry over a little thing like that. Let's settle it with a drink. What will you have?"

Farmer: "Eggnog!"

CCJ

THE LITTLE DONKEY LEFT HOME TO MAKE HIS MARK IN THE WORLD. HIS MOTHER TENDERLY SAID: "GOOD-BYE, DARLING. PLEASE TRY TO MAKE AN ASS OUT OF YOURSELF."

CCJ

The Traffic Clerk walked timidly to the salesgirl at the jewelry store and asked the price of a diamond wedding set. "Will you take off anything for cash," he asked when told the price.

"Listen, mister," retorted the salesgirl, "this is a jewelry store not a burlesque show."

Dimpled Dolly says a girl who goes joy-riding with a truck driver now-a-nights doesn't have to consult a road map to know what the guy's driving at.

CCJ

Weavin' Willie, the City Driver, says that, "Married women drive slower than married men because women will do anything to stay under 30."

CCJ

When John Johnson applied for his special chauffeur's license in the crowded license bureau, an officer shoved a paper across the desk. "Write your last name first, and your first name last," he said hurriedly.

"How's that again, sir?" asked Johnny, somewhat confused.

"Like I said before," replied the officer . . . "Backwards!"

Johnson shrugged his shoulders. After all, they knew what they wanted. Laboriously, he wrote: "nhoJ nosnhoJ."

CCJ

The truck dispatcher was out with his new girl friend. He rounded a bend at close to forty. A sudden skid and the

car overturned. They found themselves sitting together, unhurt, alongside the completely smashed car. He put his arm around her waist, but she drew away.

"It's all very nice," she sighed, "but wouldn't it have been easier to have run out of gas?"

CCJ

Grease Monkey: "It's awful. My wife doesn't get to sleep before four in the morning."

Parts Clerk: "Does she go out to night clubs or to bridge parties?"

Grease Monkey: "Neither. She sits up and waits for me."

CCJ

GIRL FRIEND: "WELL, DARLING, IF I DIDN'T WEAR ALL THESE NICE CLOTHES, WOULD YOU STILL THINK I'M BEAUTIFUL?"

SAFETY DIRECTOR: "LET'S DECIDE THAT QUESTION RIGHT NOW."

CCJ

Personnel Manager: "Doctor, remember last summer you recommended I go out with girls to get my mind off my business?"

Doctor: "That's right. How did it work?"

P. M.: "Fine, but now can you recommend something to get my mind back on my business?"

CCJ

The Claim Agent said to the O.S. & D. Clerk, "Did you hear what happened to our travelling auditor? Mrs. Bigwig invited him to her home. Her husband came home unexpectedly, and hit him with a vase right in the back."

"So what?" the OS&D Clerk replied. "It could be worse."

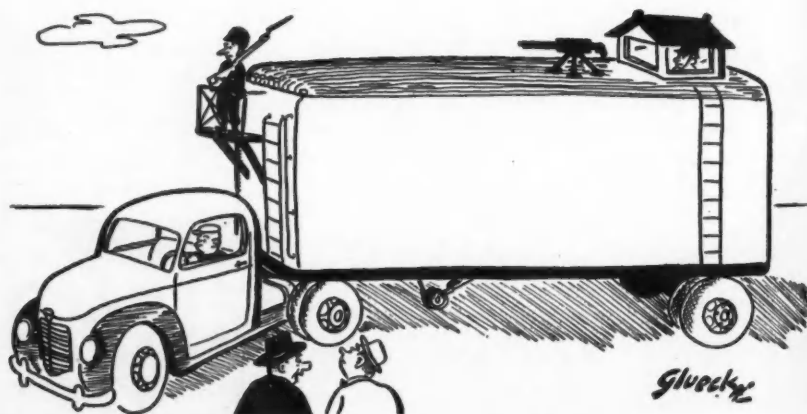
"Wait a minute. He then knocked out his teeth, cut his eyes, broke his jaw, broke both legs and shot five bullets into him."

"It could be worse," repeated the OS&D Clerk.

"What do you mean? Cuts him with a broken vase, tears out his teeth, knocks out his eyes, breaks his legs and you say it could be worse?"

"Yes," said the OS&D Clerk. "I was there the night before."

(Resume Work)



"The boss must have a precious cargo there!"

CCJ BULLETIN BOARD



YOUR "REARS" ARE SHOWING

Even a Poor Fish Takes Care of His Tail. How About You?

IT'S A SMALL WORLD . . . when you're backing down an alley, into a narrow garage or up to a crowded loading dock with a tractor-trailer combination. Some drivers are intent on making it larger—and they meet the most rugged resistance in the form of walls, poles and doorways. What they do to fenders, bodies and such things as men shouldn't happen to a yellow cost sheet.

Backing accidents account for as much as 30 per cent of the accidents reported to American Trucking Associations. Yes, misguided rears are backing some fleets into arrears at a high rate of speed.

What's the trouble, Mac? Why can't you wiggle out of a tight

spot without giving a dangerous and costly brush off to the immediate vicinity? Damned careless; that's it. You're a good driver — ordinarily; you have good eye sight; you have a strong right foot for that brake pedal. You have a rubber neck when it comes to examining certain other rear ends you meet. Why don't you use these facilities to take more care of your own?

Backing accidents can be backed off the records with your cooperation. It's up to you to confine your engagements to the more animate objects and your personal contacts to things that "give" more graciously than bricks, stone and iron railings.

A good driver:

1. AVOIDS backing whenever

it can be managed by careful planning of routes.

2. INSPECTS the line of travel personally before backing.

3. GETS the assistance of a guide whenever possible.

4. KNOWS the height of his vehicle and learns to judge overhead clearances.

5. WATCHES for swinging doors, windows, low wires, overhead signs, tree branches.

6. REMEMBERS that the responsibility for safe backing remains with *him*.

Take a lesson from the man who has been on the CHARGE-ABLE side of the accident sheet. Don't be the kind of driver who makes his mark in the world by being hit in . . .


THE END

Reprints of the above are available at nominal cost. Write the Editor

SPINNING POWER

GLOBE-UNION

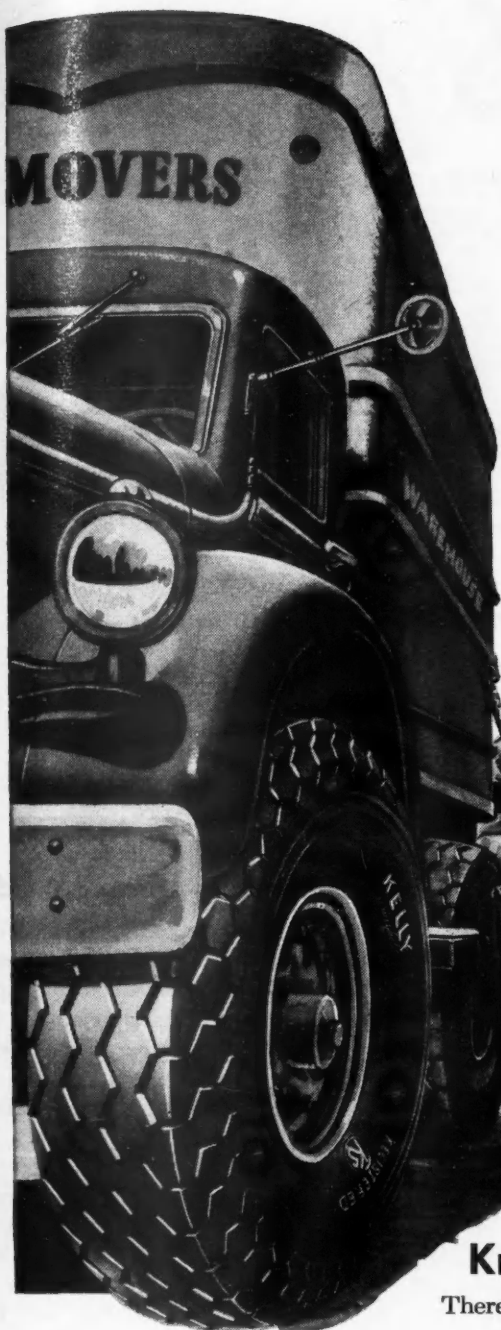
FOR SPLIT-SECOND STARTING



GLOBE-UNION INC. • Milwaukee 1, Wisconsin

PICK UP NEW BUSINESS

when you deliver on Kellys!



Every trucker knows that "on-time deliveries" pay off in repeat business.

That's where Kelly Truck Tires can help. Because Kellys help you meet that contract on schedule!

Kellys are built for rough treatment. Exclusive Armorubber tread outwears steel—gives you more working rubber on the road and extra thousands of trouble-free miles.

What's more, Kellys take recaps better—giving you more total mileage and further reducing your final cost per mile.

And you have the added assurance of knowing that into each Kelly Truck Tire go the skill and expert craftsmanship that have characterized *all* Kellys for 55 years!

Know-how makes them Better!

There's a Kelly *job-designed* for your work! Put on Kellys and enjoy dividends from longer, trouble-free service!

KELLY
REGISTERED

KELLY COMMERCIAL
HEAVY TREAD

KELLY
DUAL TRAC

KELLY
LUG TRAC

KELLY
RIB TREAD

KELLY
DELIVERY TRUCK TIRE



A TOUGH KELLY FOR EVERY JOB!

THE KELLY-SPRINGFIELD TIRE CO., CUMBERLAND, MD.

PUBLICATIONS

FREE



L14. Piston Data Book

The Automotive Engine Piston is the title of this 16-page booklet prepared by a well-known manufacturer with the intent purpose of providing authentic information on the functions of the piston as well as the characteristics which contribute to its high efficiency of operation and performance.

From this study mechanics can glean the know-how that will enable them to prolong piston life. The text is detailed, the information basic yet practical to the fleet shop.

Introduction is made with a study of the external construction of a piston, with drawings and definitions to show function of the various surfaces. Another section takes up the internal construction, to show piston structure, various designs, and just why the part was made that way. The author shows why piston slotting of the aluminum alloy piston is done.

From a maintenance standpoint piston clearance, piston fitting, pin fitting and procedure for finishing semi-finished pistons is given in detail.

Write L14 on the free postcard

L15. Brake Service Manual

A new instruction manual for men who service hydraulic brakes entitled "Recommended Service of Automotive Hydraulic Brakes," provides simplified, but complete information on the operation of the hydraulic brake system, the diagnosis of faulty brake conditions, and correct installation procedures. Printed in three colors, the manual is illustrated by unusual "exploded" and sectional drawings and photos.

Among the unique contributions of this manual to better brake installation practice are sections on The

USE POSTCARD

NO STAMP NEEDED

A selected list of the latest literature —
catalogs, pamphlets, charts—chosen to help
fleetmen improve operation and maintenance

Simple Arithmetic of Hydraulic Brake Systems and A Glossary of Common Complaints. Other subjects are Master Cylinders, Wheel Cylinders, Cleanliness, Injurious Chemical Reactions, The Rubber Story, Flushing, and Bleeding. Write L15 on the free postcard.

L16. Fire Extinguisher Guide

Here is information which should be made available to each and every man in the shop. This is in the form of cardboard instruction sheets for five types of fire extinguishers.

These 6½ by 10½ cards are printed in two colors and are varnished to prolong their life in service. They provide necessary information for the use and maintenance of the following types of extinguishers: 2½ gal. Foam type; 2½ gal. Soda-Acid type; gallon and ½ gal. Vaporizing Liquid type; 1 and 1½ qt. Vaporizing Liquid type; 2½ gal. Gas Cartridge type. All of Pyrene make.

List the number of extinguishers of each type you have and order copies of these charts for your shop. Write L16 on the postcard.

L17. Woodworking Guide

"Your Guide to Safety in Woodworking Shops," thirty-third in a series of safety booklets that slip in the pocket for easy reference, has just been published by the Accident Prevention Department of the Association of Casualty and Surety Companies. Thirty-two pages are crammed with specialized safety information, ranging from the proper use of woodworking equipment for the guidance of the mechanic in a large commercial shop, to tips for handling small tools that will help keep the home hobbyist safe and sound.

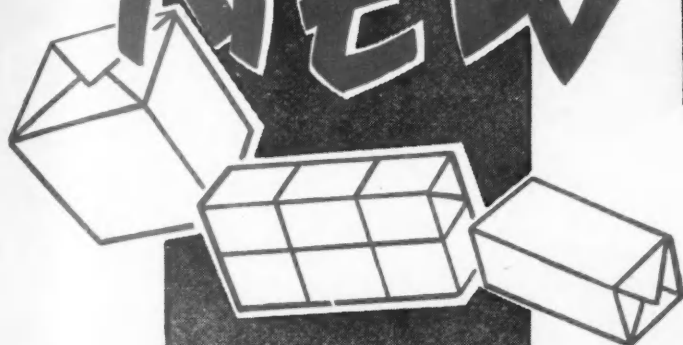
The booklet contains sections on general safety including correct work clothing, lifting techniques, etc., good housekeeping in the shop, the proper care and use of hand tools and of woodworking machines, such as circular saws, jointers, drills, mortising machines, planers and lathes.

Other sections deal with ventilation, the related hazards of fire and explosion, and brief reminders for safety off the job.

Write L18 on the free postcard for a copy of this guide.

NEW

PRODUCTS

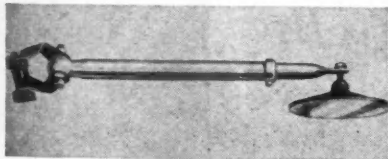


USE POSTCARD FOR MORE DETAILS

Illustrating and reviewing briefly many of the newest developments in parts, accessories, shop equipment and tools. For more information mail free postcard

P1. Hindview Mirror

The new "Hindview" extendable mirror now available to truckers has two types of optional heads—one-way swivel and universal swivel socket. Cushioned ball joint always



maintains tension. Mounting fits any size hinge, or the mirror can be fastened to the body. The heavy arm minimizes vibration. Available with 5-in. or 6-in. mirror diameter, clear or non-glare glass. Whitehead Stamping Co., Detroit, Mich.

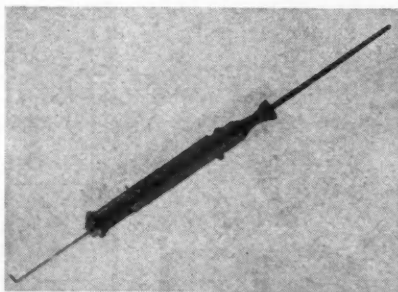
P2. Cylinder Sleeve Tool

A new hydraulic Sleeve-Master for pulling and inserting cylinder sleeves in all makes of sleeve-type engines is equipped with a two-stage 25,000 lb hydraulic pump that gives maximum pulling power for breaking the sleeve loose. Then a flip of a small hand

lever permits fast, easy extraction with long pumping strokes. All sleeves, including the one in the rear cylinder directly beneath the cowl or fire wall, can be pulled or inserted with the block mounted in the chassis. It is designed to pull or install any sleeve up to 6½ in. OD and up to 11 in. long without the need for raising blocks or other accessories. Accurate Tool & Gage Co., Minneapolis, Minn.

P3. Tension Scale

The new model Pelouze "Push or Pull" scale for tension testing can be



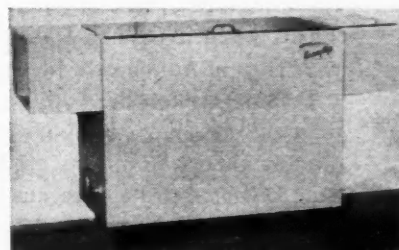
inserted into the smallest of openings, without removing the installed units or parts. "Push or Pull" rods are .6

in. long, threaded and are detachable.

Precision calibrated spring and adjustable head permit use in any position. Spring is specially treated alloy steel wire. Shell is seamless brass tubing with solid brass head. Entire scale is heavily nickel plated. Pelouze Mfg. Co., Evanston, Ill.

P4. Cold Cleaner

The Magnus Krazy Dip Senior, a cold parts cleaning machine, is used for the complete removal of carbonized oil, grease, chips and dirt deposits from blocks, injectors, cam shafts and other metal parts prior to repair and replacement. Parts are handled in batches up to 350 lb per cleaning operation.



The machine is air-powered, with mechanical agitation moving the parts in the cleaning solution 160 times per minute and forcing the solution into all deeply recessed areas.

Air consumption is 1 to 2 cu ft per min, and a minimum air pressure of 50 lb p.s.i. is all that is required. Equipment Division, Magnus Chemical Co., Inc., Garwood, N. J.

P5. Safety Drag

A new type Silent Safety-Drag, static eliminator for gas and oil trucks, features 400 special high carbon conducting wire bristles 7 in. in
(TURN TO PAGE 52, PLEASE)



STEEP GRADES AND LOW GEARS DEMAND DAYTON AUTOMOTIVE BELTS

Rolling down grade in high . . . grinding uphill in low-low. V-belts race around pulleys at terrific speeds. That's when it pays to equip your trucks and tractors with Dayton Automotive Belts.

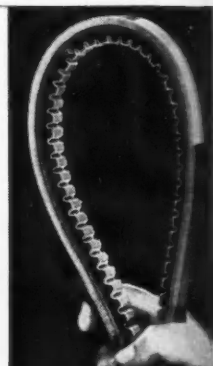
Because Dayton Belts are built to stand up under the toughest operating conditions. For example: a prominent Transit Company reports an average of 35,000 miles from Dayton Cog-Belts*, against 20,100 miles from other makes. A large intercity fleet owner reports 60,000 miles of service on his toughest run. A Twin Coach operator changed his 100 buses over to Dayton Cog-Belts. After six months—didn't have a single belt failure.

When a belt failure can cause delays, damage and disappointed customers, it's sound business to use the best. Specify Daytons. They've proved themselves over thousands of miles, on the toughest hauls. See your Dayton Distributor or write *The Dayton Rubber Company, Dayton 1, Ohio.*

*[®] TRADE MARK

HERE'S WHY
DAYTON BELTS
ARE

*Setting New
Mileage Records*



Made with Raytex Fortified Cord. Rayon specially processed by Dayton for minimum stretch, maximum strength.

Made with special blends of rubber. Unaffected by oil, grease, heat or dirt.

Famous die-cut, raw edge construction. Non-slip, non-stretch, greater gripping power.

Original Built-in Cog Construction, for greatest flexibility around small pulleys at high speeds.

V-Belts by

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

the original equipment belt for fan, generator and accessory drives

SLASH REBUILDING COSTS

**Fleet Operators Discover Porto-Power
Salvages Material and Speeds Work**



MODEL S-200 — the key PORTO-POWER assortment. 4, 7, and 10-ton hydraulic units and attachments. Versatile press. Portable stand. Only \$370. (Subject to change without notice.)

Whether you have a full-fledged body department or not . . . *you can cut costs with Porto-Power!* This versatile hydraulic equipment is only a small investment. Yet, it ordinarily repays its cost, *many times over*, in less than a year's service. Anyone can operate Porto-Power. It replaces time-wasting hammering and makeshift jack set-ups. It is the *basic* tool before most refinishing work can proceed. And if you already own Porto-Power — make sure that you have it *complete* in its 2, 4, 7, 10, 20 and 50-ton power range. You get Porto-Power from a Blackhawk jobber.

A Product of BLACKHAWK MFG. CO., Dept. P-1159,
Milwaukee 1, Wis.

Porto-Power®

is BASIC Equipment
in Bus and Truck
Fleet Shops!



PULLING OUT A FENDER with 2-ton "BANTAM" Porto-Power.

REPAIR WORK — 20-ton Porto-Power cuts 75% off time in replacing axle tube on trolley bus.



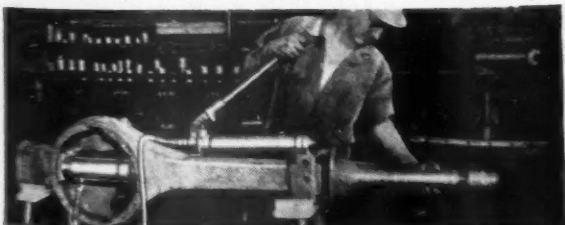
STRAIGHTENING a bumper with a 10-ton Porto-Power chain-pull set-up.

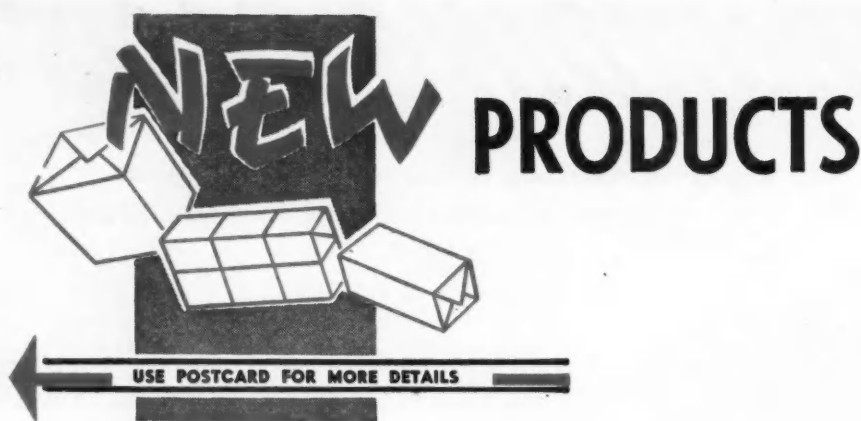


ALIGNING a bus dashboard with 10-ton Porto-Power push.

BLACKHAWK®

HYDRAULIC JACKS • WRENCHES • PORTO-POWER



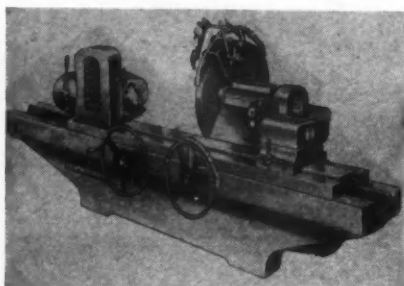


Continued from Page 49

length for long life. The flexible conducting wire brush makes continuous contact with the ground. Brushes may be quickly and easily replaced. Marquette Mfg. Co., Inc., Minneapolis, Minn.

P6. Crankshaft Regrinder

This new crankshaft regrinder, No. 448, priced under \$5,000, will regrind shafts 48 in. long. It has an 18-in. swing. Conventional Van Norman design is observed throughout.



Work table traverses; ways are hand-scraped for accuracy; close-grained cast-iron base has 3-point support and is deep-ribbed for the extra rigidity required for vibrationless operation.

Wheel spindle, as well as headstock and tailstock spindles, are mounted on precision anti-friction bearings. Wheel is 24 in. in diameter. Standard equipment includes fixtures for grinding mains and pins between centers. Six and 8-in. chucks are available to eliminate recentering of shaft. Van Norman Co., Springfield, Mass.

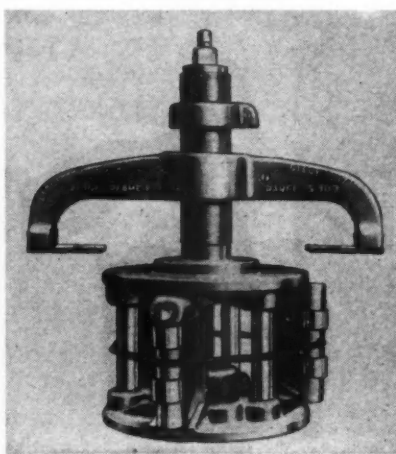
P7. "Multi-Level" Trailer

This hydraulically-operated multi-level semi-trailer features a trailer bed height which is variable from ground

level to any desired dock height. Power for elevating the trailer, loaded or empty, is supplied by the tractor engine, driving a simple hydraulic pump. A master cylinder operates independent pistons hydraulically connected to the elevating cylinders at the rear axle and gooseneck connection. A control valve in the cab permits the driver to raise, lower or hold the trailer at any desired height. Positive mechanical stops carry the load when traveling. A manual pump system permits raising and lowering the trailer when not connected to the tractor.

The new trailers are available in capacities from 5 to 20 tons, with

P8. Ridge Reamer



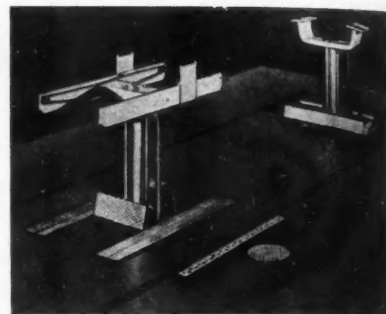
A new ridge reamer for large truck and tractor cylinders is built along the lines of the Lisle standard ridge reamer and incorporates the Lisle "Lathe Action." It removes cylinder ridges as wide as $2\frac{3}{8}$ in. in cylinder diameters from 5 in. to $7\frac{1}{4}$ in. in one continuous cut. The cutter is guarded so that it will remove the ridge safely even when there are port holes in the cylinder wall. The Lisle Corp., Clarinda, Iowa.

single or dual axles, and in bed lengths, widths and lifting heights to suit any requirement. Tires, brake, fifth wheel and lighting equipment are furnished to customer's specifications. Standard Trailer Co., San Leandro, Cal.

P9. 2-Post Lift

Here is a 2-post lift which features a special synchronizing dial that does the spotting without the use of bars, plungers or hooks.

When the vehicle is driven onto the lift, the front wheels spot themselves in proper position for the front post. To bring the rear member in line with the rear axle, the synchronizing dial is turned to the number shown on a scale opposite the center of the rear wheel.



Lift covers open and close automatically. Flush floor installation simplifies getting vehicles on and off the lift. With pistons installed at 125-in. centers, the lift will accommodate wheel bases ranging from 103 in. to 147 in. and weights up to 5 tons. The United States Air Compressor Co., Cleveland, Ohio.

P10. New Dunlop Tire

A new extra mileage truck and bus tire has been added to the Dunlop Gold Cup line. This tire features up to 50 per cent greater tread depth. Said to assure lower cost per mile with either high or low-speed loads. Dunlop Tire and Rubber Co., Buffalo, N. Y.

P11. Temperature Control

This automatic temperature control system was designed primarily for keeping bus and truck engines warm when the vehicles are stored outside in cold weather. However, it can be used on any other application where it is desired to start and stop

(TURN TO PAGE 142, PLEASE)



Factory Service news

Continued from Page 57

Federal

Cooling System—All Models

Causes of some engine troubles such as cracked cylinder heads and blocks, and low mileage bearing and valve failures, have been traced directly to the cooling system. The most common of these causes are—operating without a thermostat (all models) and operating with a defective water distribution tube in the Continental B6427 engine.

When a water by-pass equipped engine is operated without a thermostat, coolant circulation at slower engine speeds is not sufficient for adequate cooling. Thus, with circulation being retarded, coolant in the engine reaches a much higher temperature than the coolant in the radiator. As circulation is increased by speeding up the engine, the much lower temperature coolant in the radiator is forced immediately into the engine. This has the same effect as pouring cold water into an over-heated cooling system, and the sudden change from hot to cold causes the cylinder head, block or both to crack.

Camshaft Gear Nut on B6427, T6371, T6427

The method of locking the camshaft gear has again been changed on the above engines. To eliminate the possibility of the gear working loose on the camshaft, a "Marsden" self-locking nut, Part No. 1A6348, with lock, 1A4804, will be used. The nut should be tightened with a torque wrench to 150 lb minimum and then the lip of the washer should be peened over to add further to the safety. This change became effective in production with the following engines: B6427—Engine No. 14368; T6371—Engine No. 1514; T6427—Engine No. 3002.

International Harvester

Cylinder Head Bolt Washers—Red Engines

A 3/16-in. thick (hardened) cylinder head mounting bolt washer IH No. 52 726 R1 is now available for service requirement for those engines where the 3/32-in. thick washer IH No. 58 516 H has a tendency to "cup" when the cylinder head mounting bolts are tightened to the specified tension of 105 ft lb.

It is also recommended that the 3/16-in. thick washer be used instead of the 3/32-in. when two cylinder head gaskets are installed to lower the engine compression ratio.

Brake Shields—K-3 and KB-3

Under certain unusual operating conditions it is possible for dirt and sand to enter the brake compartment through the openings in the wheel hub causing rapid wear of the brake lining. Special metal shields can be installed over the sheet metal part of the brake drum and held in position by the wheel. Part numbers of the shields are 73 312 R1 for the front, and 73 313 R1 for the rear.

"Belted-Type" Aluminum Pistons GRD-214, 214-A, 233, 233-A Engines

To lessen the possibility of piston scuffing and scoring, Thompson tin plated "belted-type" aluminum pistons have replaced the Thompson non-plated belted-type aluminum pistons used in production GRD engines and for service requirements on HD and GRD engines. Piston to cylinder wall clearance for Thompson tin plated belted-type aluminum pistons for HD and GRD engines is .0015 in. minimum to .0025 in. maximum measured at the location of the round steel band in the piston and at 90 deg from the piston pin bore.

Plymouth

Backlash in Transmission Countershaft

Some cars when accelerated in low gear, produce a klunking noise which seems to originate in the transmission or rear axle. In extreme cases, where this noise is quite pronounced, it may be eliminated by decreasing the end play of the transmission countershaft, by adding the proper thickness thrust washers. The desired end play of the countershaft should be from .002 to .008 in., preferably the former.

Chrome-Plated Compression Rings

Plymouth cars shipped after Nov. 1, 1948, have been equipped with a chrome-plated, upper compression piston ring. When replacing, break the cylinder glaze with a spring-loaded hone. Roughing up the smooth, mirror-like glazed finish will allow for quicker ring seating.

Studebaker

Transmission Clearance Cover Seal

For 2R Series trucks equipped with 4-speed transmissions, a seal is now available for the shift lever tower and hand brake lever opening in the floor pan to prevent air or dust from entering the cab.

This seal is made of material similar to sponge rubber and is installed by cementing it to the transmission floor pan cover so that it fits tightly around the shift lever tower and hand brake lever. Order part No. 652871.

Front Spring Shackle Kit—M15A, M16

For cases of severe operating conditions which cause the front spring shackles on M15A, and M16 trucks to wear at abnormally low mileages, a kit has been released for the service installation of a front spring shackle of the type used on the 2R Series trucks.

This type of shackle affords longer shackle life as a result of the mushroom type construction of the rubber bushings and the use of pure gum rubber in place of compounded rubber. Front spring shackle kit, Part No. 678565, should be installed.

(TURN TO PAGE 97, PLEASE)

The Guide double-face unit (shown here), for front-fender mounting, is visible from both front and rear, signaling approaching as well as following vehicles. Single-face units, for either front or rear mounting, also are available. All units have visors, for improved visibility. A lens concentrates the light to make the flashing arrow visible, day or night.



POINTS THE WAY
TO SAFETY

GUIDE

NEW HEAVY-DUTY HIGH-QUALITY
DIRECTION SIGNAL



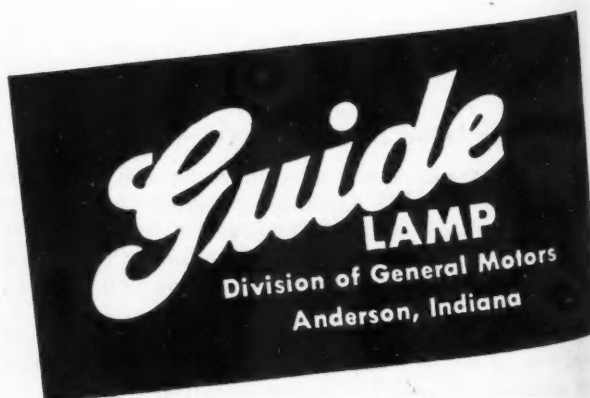
The direction-signal switch, in a heavy metal housing, is readily attached to any steering column, just below the wheel. The illuminated plastic switch lever blinks on and off while the signal is operating—a tell-tale to inform the driver that the lamps are flashing their friendly warning to other vehicles.

Designed specially for the requirements of truck use, this new direction signal is a sturdy heavy-duty unit built to give a long life of dependable service. Maximum durability and reliability are assured—both by Guide's skillful designing and manufacturing, and by Guide's policy of building to high standards rather than to a low cost. The new direction signal is, in short, a high-efficiency unit built of high-quality materials—yet its cost is little compared to its value in added safety.

It's risky to depend on hand and arm signals. But the flashing arrows of the Guide direction signal are *always* effective, day and night. For safety's sake—equip your trucks *now*.



GUIDE LAMP—A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS



ABSENTEEISM

Causes and Cures

23-State CCJ survey of fleet shops reveals that while absenteeism is still a problem it is much less acute than in the immediate post war era

Most Absenteeism Trouble Is with Night Crews



By
WAIN GARRETT
Maintenance Supt.,
Garrett Freight
Lines, Inc.,
Pocatello, Idaho

With around 500 pieces of equipment we have a headquarters shop personnel of 50, and 45 terminal shop employees. We are having some trouble with absenteeism, however, conditions are 100 per cent better than they were during the war and have shown strong improvement the past year and a half.

We have had the most trouble with the night crews. The big majority of our men do not like to work nights. We have found that adding a pay incentive for a night job greatly cuts the distaste and likewise holds down absenteeism.

Also we have found some men who can handle night work easier than others. Therefore we try to select our night men from those who "fit" into the night man class. Then when a night man, because of a changed family setup—or other reasons, desires to go on day work, we try at once to workout some arrangement with him.

It seems to me the best insurance against absenteeism is to use common sense in working out schedules and job assignments.

• ABSENTEEISM •

GOES UP

In poorly-equipped shops
With unfair assignments
With lack of responsibility
When there is "one rotten apple"
In night assignments

GOES DOWN

In well-equipped shops
With delegation of responsibility
With permitted absences
With annual vacations
With proper hiring policy

By H. L. Houck and S. Puffer

CCJ Special Correspondents

▼ WHILE ABSENTEEISM is not nearly as critical today as in the immediate post-war era, it is still a factor in many fleet maintenance shops. As a general rule, it may be said that as the efficiency of shop and man power goes up, absenteeism goes down.

These statements are based on facts obtained from interviewing several hundred persons connected with shops of the trucking industry. While making the survey, we interviewed people in positions ranging from president and general managers to janitors, including a preponderance of fleet superintendents, shop foremen and mechanics.

The shops were located in 28 mid-west and western states and the vocations of the fleets interviewed included bakery, freight lines, laundry,

petroleum hauling, logging, lumber, express, contracting and creamery.

Mechanical employees ranged from three to almost 200 in large freight line maintenance shops. All types of shops were visited with such contrasts afforded as a shop with greasy dirty floors, no light, no equipment and more than 75 tractor-trailers to maintain and a shop clean, light, with all the latest equipment, and a sparkling fleet of 30 trucks to maintain. Because of the frankness of their statements many persons interviewed insisted on remaining anonymous.

This survey shatters a prevailing opinion among truck executives that most of the absenteeism in truck shops is the result of drink. The boomer mechanic who is often a habitual Saturday night drunk and

(TURN TO NEXT PAGE, PLEASE)

ABSENTEEISM Causes and Cures

Continued from Page 65

Vacation-With-Pay is Major Solution



By
ARNOLD NISSEN
Fleet Supt.
Union Freightways,
Omaha, Neb.

We have around 600 units in our fleet with maintenance headquarters here at Omaha, where we have a maintenance crew of 21 and a superintendent, besides a body shop superintendent and crew. We have three mechanics at Minneapolis, two at Chicago, one each at Sioux City and Fort Dodge, Iowa.

The past two years we have had no trouble with absenteeism. One reason for this is that we do not watch overtime closely. That is, we encourage a man to finish his job after his regular time if he wishes to. We find that the men like and appreciate this.

We have an understanding among all the maintenance men that when a new man joins our force he is to be treated well from the start. All know that each new man is hired on a 60-day trial period. If the new man passes this 60-day period he "belongs," if he fails he is "out."

Also we have had much more loyalty and improvement in absenteeism since we put in our vacation-with-pay plan. A shop man who has been with us one year receives one week's vacation with pay. After 5 years he receives two weeks' vacation with pay.

who seldom reports for work before Tuesday, is easily recognized when he asks for a job. Most superintendents hire him only when they have no recourse and while they can usually get good work out of him when he is sober and on the job, they do not expect any real dependability.

Small City Location a Boon to Loyalty



By
BLAINE WEAVER
Maintenance Supt.
Southern Service
Laundry Co.,
Pomona, Calif.

In our shop here we service 220 units, mostly panel trucks. We have a small shop personnel running between 10 and 15 men. We have absolutely no trouble with absenteeism. In the past year no man has been absent from work except because of bonafide sickness.

We attribute our good fortune here to the fact that we have a small crew made up of workers who have been with us a long time. We have one mechanic who has been with us 32 years; the head mechanic is going on his 21st year, and the youngest in seniority is going on his 5th year.

We have another point of advantage, or so we believe: Pomona is in the Los Angeles area but far enough out to be classed as a separate city. It is a small city and our people do not have big city ways. There are more sane livers, more home owners, and I believe less population shifting. The majority of our shop men are home owners.

Another point—we have no night shift. Maintenance shops in this area, particularly trucking lines, which have night crews, report some trouble with absenteeism on the night shift.

This type of mechanic is rapidly disappearing, not only in the truck maintenance field but his counterpart in the bakery, printing, painting and cooking trades, is giving way to the better educated and better skilled man, who is trying hard to get ahead.

More complex is the problem of

Headquarters Shop Better Than Small Field Units



By
JACK MOYLAN
Equipment
Maintenance Supt.
Fisher Construction
Co.,
Phoenix, Ariz.

In our Phoenix shop we service around 75 units (20 8-yard dump trucks, 17 mixer trucks, 11 pickups, 2 semi-trailers, 6 flat racks, and 19 miscellaneous trucks). The year through our shop pay roll averages 30. At our Phoenix shop we have no trouble with absenteeism. Within a year after the end of the war this condition was completely corrected. In our field shops (we have from 2 to 5) we have some trouble with absenteeism on Mondays and some trouble with the night crew, where we hold our shop open around the clock.

We have found no solution for the Monday blues at the field shop. Where we have had two crews, we have found that it helps to assign a man to days one half week and nights the other half.

absenteeism in well-equipped and well-operated shops.

Infrequently absenteeism may be traced to over supervision, commonly called too much bossing. Shops presided over by superintendents who are no less firm, but who are blessed with the trait of diplomacy, have less absenteeism.

Favoritism, unfair assignments, lack of the ability of mechanics to get along with each other and with supervisors—all contribute to lack of interest in some mechanics which in turn leads to reporting sick and laying off at every opportunity. These dissatisfied men are looking for another place to work and eventually quit and are sometimes discharged.

In this survey it was ascertained which of the shops investigated were union shops and which were non-union shops. It is not the purpose of this article to engage in a discus-

No Trouble Now But a Lot Just After War



By
E. L. COPE
Maintenance Supt.
Vegas Rock & Sand
Co.,
Las Vegas, Nev.

At our Las Vegas shop we service regularly 26 pieces of equipment with a crew of one foreman, six mechanics and maintenance men, and one greaser and serviceman. On contract location work we sometimes set up a field shop and have from three to 10 handling maintenance.

We have no trouble with absenteeism. We operate on one shift, a regular 8-hour day. We do no night work at the Las Vegas shop. In the field when we have been forced to operate with two shifts we have had some trouble with absenteeism on the night shift—none with the day shift.

During the war and for a year afterwards we had a great deal of trouble with absenteeism but this righted itself as conditions settled after the war.

Promise of Advancement Holds Down Absenteeism



By
WM. BLOHM
Operations Manager
Collett Freight
Lines,
Salt Lake City, Utah

We have a shop personnel of 20. We have absolutely no trouble with absenteeism and have had none since 1945, when we put in our present program.

Days and hours lost through sickness, accident, or other causes are posted on a shop bulletin board. Six of our 20 shop workers are under a training schedule to become shift foremen. Four of these are to be mechanic foremen and two service foremen. Of the six we will select three. This promise of advancement is an important factor in holding down absenteeism in this group.

Being liberal on overtime has also been a strong factor. We find that our men like overtime and respond to the overtime plan better than to working night shifts, even when staggered.

Like Father, Like Sons No Absenteeism Here



H. B. BRYAN
Melton Transfer Co.,
Cheyenne, Wyo.



Left to right: Sons N. H., R. W., O. F. and W. J. Bryan. N. H. is shop foreman

"We have no trouble with absenteeism in our shop," say the Bryans. "Four of us brothers and our father handle the job and if one of us fails to show up dad goes out home and kicks him out. That's all there is to it."

sion of the merits of either system but on the other hand, to report conditions that lead to good and bad results. Both extremes of absenteeism, its presence in a disturbing amount and its almost total absence, were found in both union and non-union shops, which virtually eliminates unionism as a factor in the subject of absenteeism.

If you want to nip absenteeism before it starts, one top-rank executive told us, it must be done when the man is hired. He had the unusual record of claiming he had never made a mistake in hiring a mechanic in a period of 30 years. His shop, employing about 30 mechanics, including all grades, had almost no recordable absenteeism.

His hiring method was unique and unorthodox and may be difficult to adapt to another organization. He has dispensed with complicated personnel data and merely asks the man

into his office for a chat. This talk may last up to an hour. Before the appointment he has received a report from competent sources such as his shop foreman or previous employer as to the applicant's ability to hold the job he is seeking. If it develops that he is the right kind of a man and is asking for a job considered better than his previous one or a job on which he might appear to be a little light, he may get the job.

During this interview the applicant is placed at ease as much as possible and is expected to do most of the talking.

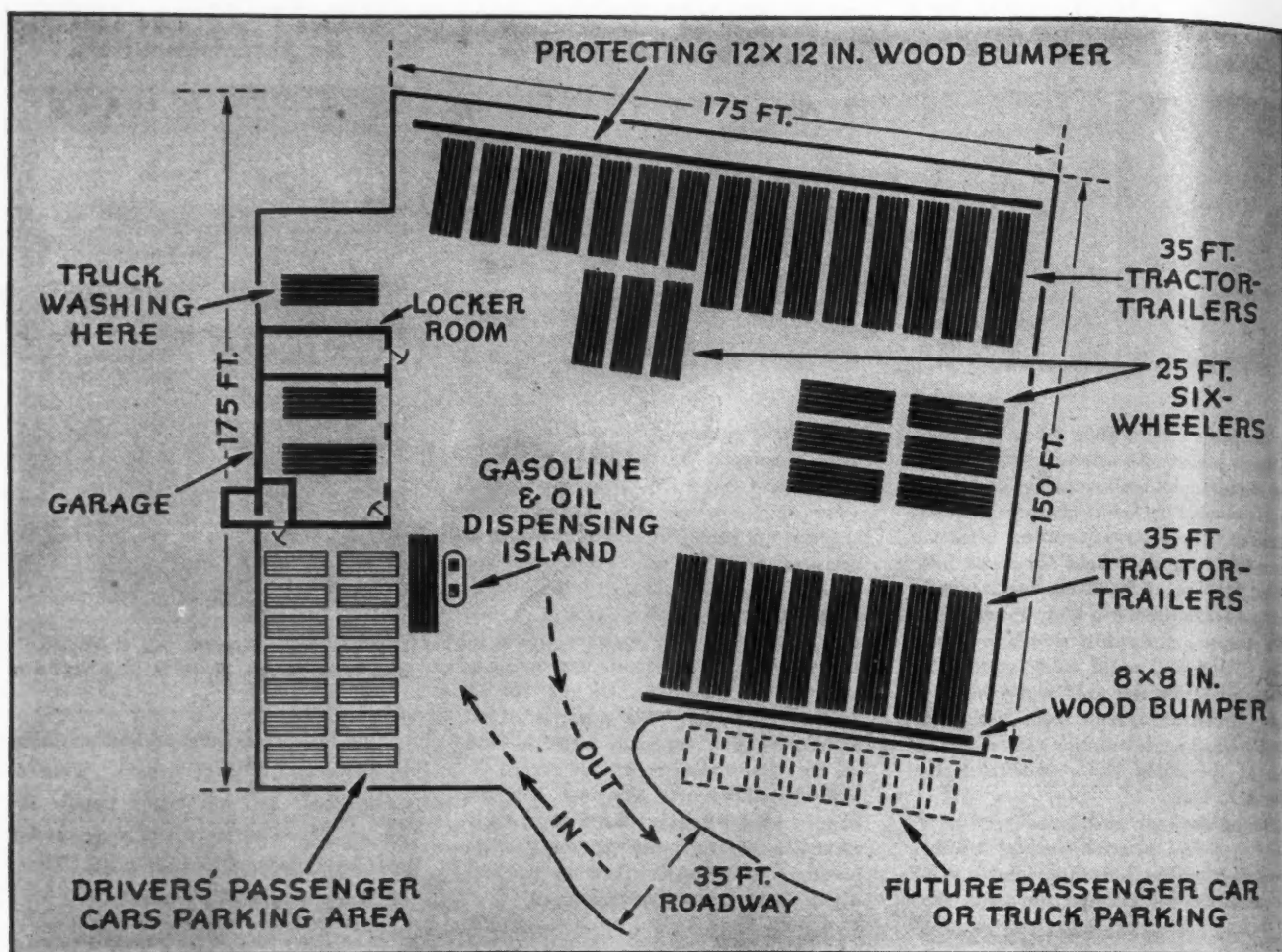
"I can tell in a casual conversation of 30 minutes to an hour," this man told **COMMERCIAL CAR JOURNAL**, "what his ambitions are, what most of his habits are, what his family life is like. If he has ambition, a good family life, and reasonably good habits, we take him. This plan has worked perfectly for over 30 years."

Irrespective of hiring procedure, absenteeism was at its lowest figure in the well-equipped, well-lighted shops, where overall efficiency was high. Ample supplies of modern machinery, lifts, jacks, hoists, analyzers, welding equipment, sparkplug cleaners, benches, tool cribs, cleaning equipment were always present in the shops with the least absenteeism.

These same shops had proper provisions for keeping floors clean, machines clean and often required mechanics to wear coveralls a certain number of days before changing to freshly laundered work clothes.

At the other extreme was an executive who told us that if he had good equipment in his shop his men would either steal it or tear it up.

But the overall record shows that a clean shop and good equipment creates a general desire to keep it that way. Required cleanup periods
(TURN TO PAGE 130, PLEASE)



PLOT PLAN of one of Consumers Co.'s new decentralized garages shows two-stall shop with ample locker space and parking facilities for cars, trucks and trailers

Fleet Decentralization

Saves \$42,400 in First Year

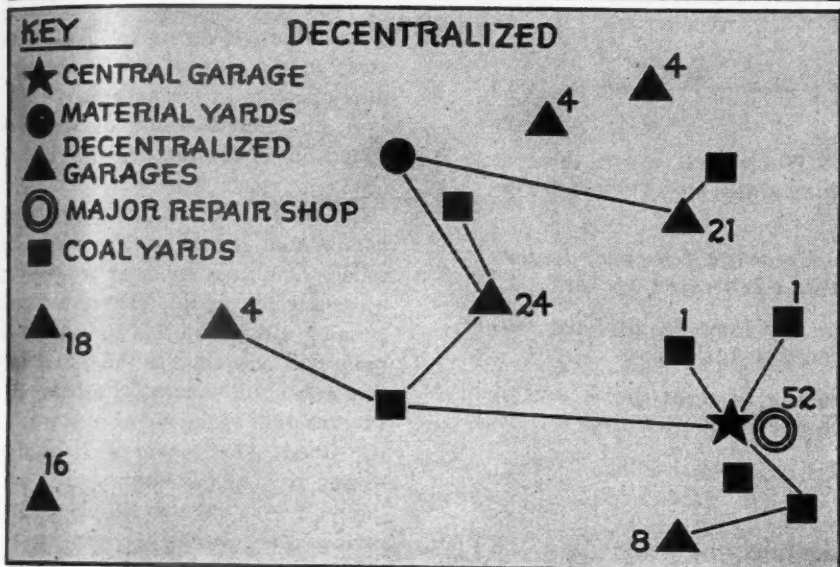
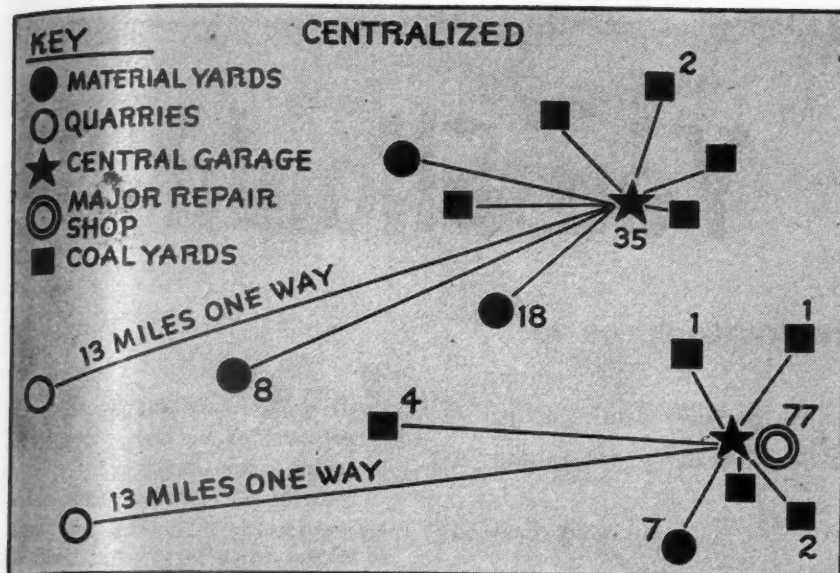
At halfway point, one centralized garage has been swapped for nine smaller units.

VEARLY in 1947 the management of Consumers Co., Chicago, began consideration of a plan to reduce operating costs for its fleet of 150 heavy-duty trucks through a proposed decentralization of truck storage and servicing facilities.

At that time, nearly all of the

trucks were being stored and serviced inside two centralized company garages, one in the North Side area, the other in the South Side of the city. Each morning the trucks would be driven empty, for variable distances up to 13 miles in one case, to their respective loading points.

These points included two stone quarries, four building materials yards, 10 coal yards, and three fuel oil yards. From these loading points the trucks would make deliveries of products to customers in the Chicago area, and at night the trucks would be returned to the two centralized



By Randall Howard
CCJ Special Correspondent



Joseph Husson, Automotive Manager, Consumers Co., Chicago

The savings: 198,000 truck miles and 12,457 driver hours

garages, to be serviced and made ready for like delivery assignments the next day.

It was evident that, for most of the trucks, the morning and night runs between the two centralized garages and the different loading points involved considerable company expense



COMMERCIAL CAR JOURNAL, May, 1949

BEFORE decentralized plan was put in effect, two centralized garages were widely separated from loading yards necessitating non-profit runs of as much as 13 miles to quarry

AFTER decentralization, nine smaller garage units have replaced one big garage and shortened distances from other. Major repair shop is retained

Figures in both charts indicate number of trucks assigned each location

from non-productive mileage and extra drivers' wages. But from the economy viewpoint, any practicable decentralization change would require a setup whereby the trucks could be stored and serviced in smaller units near to or at the yards out of which they worked. This meant the erection or adaptation of small garage buildings at these scattered points, and providing them with the needed servicing and maintenance facilities and personnel. Thus it became a management problem to determine the exact costs involved in both types of operations.

This problem was put up to Joseph Husson, Automotive Manager for the Consumers Co. He began a survey which extended through more than six months. His findings were favorable to the proposed decentralization program; and by the end of 1947 the company had made enough small garage installations to place in operation about one-half of the total proposed new decentralization program. Thus there was opportunity, during the year 1948, to get a practical cost test from this completed portion of the program.

A review of the cost figures and operational problems involved in this new setup and the resultant economies was presented recently by Mr. (TURN TO PAGE 122, PLEASE)

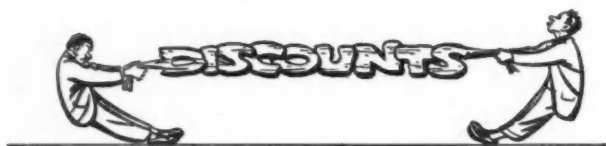
OUTSIDE storage is part of decentralization plan and has resulted in no troubles. Increased funds were made available for anti-freeze, hard starting

You Should Be S

QUICK FACTS ON TRUCK TIRE OUTLOOK FOR '49

Lower list prices? Not much chance, but they won't go up.

Buyer's market? For sure, and doubled in spades to dig competitor's graves with.



Longer discounts from dealers? Not much more than at present, because even rubber discounts won't stretch indefinitely.

Any interference with quantity discounts between dealers and operators by the FTC? Nothing indicated so far.

Second lines of truck tires? Already here by at least two large companies, with more expected to follow.

Cold rubber for truck tires? Nothing in sight there, except possibly in the very smallest sizes for light pickups.



Any other new rubbers? If there are, the tire companies are not talking. Research is continuing and optimistic.

Are present tires as good as prewar? Better, say tire men.

Rayon and nylon cord? Both good, but nylon has the edge, and swing is that way, limited only by supply.

Wire cord? Most companies lukewarm about any immediate possibilities, but one large producer may kick it loose soon.

Replacement truck tire market outlook for 1949? Good but bitterly competitive.



100,000 mile tires? One company says it has one that has been in the field for a year.

IF YOU THINK things are tough in the trucking business, you should be selling truck tires yet."

That is the good-natured comeback we got from the tire companies at Akron when we visited them on our annual pilgrimage there in March to see what stacks up for fleet operators in the way of prices and new developments in truck tires.

A thumb-nail sketch of what we found out is contained in the box at left.

There is no doubt that dog-eat-dog competition is back among truck tire sellers. One sales manager wrapped it up neatly by saying, "There is blood running already in this industry and more will be spilled as the throat cutting gets more vicious." Probably the first reaction of the buyer at this news is, "Good! That means we'll be able to buy tires at our own figure." Actually, it isn't quite as simple as that, because the squeeze has been on for quite a while already and most companies believe that the discounts that have been pretty general for the past few months are close to rock bottom. The industry thinks three tens and a five is about rock bottom, and there have been many such reported in large deals. Profit margins of both manufacturers and dealers have been pared drastically, and so far as a reduction in list prices is concerned, the tire builders can't see one in the cards, unless something happens to labor, material, and other costs, which is not indicated right now. On the other hand, the bitter struggle for sales makes a higher list price almost out of the question.

Only 5% Over Prewar

THE TIRE people actually have a pretty good case when it comes to prices. They point out that tires are in a class by themselves, pricewise, among items the fleet operator buys such as trucks, trailers, fuel, repair

e Selling Tires!

**Recent survey among tire manufacturers
reveals highly-competitive market;
prices and discounts at rock bottom;
research for improvements at high level**

By Leonard Westrate
CCJ Detroit News Editor



parts, and other trucking requirements. While these items have greatly increased in price since before the war, tires today are only slightly higher. For example, the list price of an 8.25-20 casing put out by one of the larger companies just before the war was \$65.32; today it is \$67.30, or only 3 per cent more. It is estimated that for all sizes the increase averages only 5 to 6 per cent higher than prewar. And the industry is unanimous in stating that tires truckers buy today are better than the prewar article.

To prove that point makers point out that all over the road sizes are made with 100 per cent natural rubber, and the small amount of synthetic used is confined to sidewalls and bead areas where in some respects it is better than crude. Also, there have been marked strides in the use of cord materials, principally rayon and nylon. Couple these two factors with several years' more experience in compounding and tire

construction, and it adds up to a tire that certainly should be better than its prewar counterpart. So the tire people say that today, as a result of better tires at almost the same price, the operator is getting lower per mile costs than before the war.

To get back to discounts for a moment, we said before that the chances for longer deals are not too good. This holds true for the larger operators, who have been getting about the maximum for some time now. One sales manager believes that smaller buyers may get a little better deal as the market gets rougher. He also says that there is a change taking place in pricing policy to the dealer which involves withdrawing certain reinforcing bonuses by the manufacturer to help him swing large deals, as has been industry practice. A new series of bonuses, based on volume, would be installed instead, and it might result in better deals for some buyers from more aggressive dealers. How-



ever, the overall margin situation precludes any great advantage over the discounts prevailing currently.

Another development is taking place very quietly that affects large national fleet buyers. We could not get any official explanation, but it appears that the manufacturers are withdrawing or at least greatly diminishing direct sales to national fleet accounts, and that these eventually will be made through dealers. That's all we know about it at the moment, however. So far as any Federal Trade Commission interference on quantity discounts to large truck tire buyers, there has been no evidence of activity in that direction. There has been some talk in the trade about it since the Supreme Court Decision last year in the Morton Salt Case, but nothing has come of it.

Second Line Truck Tires

ANOTHER sure sign of the buyers' market in tires is the reappearance of second line truck tires. Two companies already have announced such lines priced in the neighborhood of 25 per cent under the regular line, and others doubtless will do likewise. The principal reason is to give dealers a competitive weapon to fight the price battle with mail order houses and large retail chains. Smaller rubber companies also have been giving their larger counterparts quite a headache on price quotations and the second line tire will be thrown into that battle.

So, to sum up the price and market situation, the opinion of the people who make and sell them is that buyers will continue to do all right and the industry will make about as many replacements as it did last year. But with the over-capacity of the tire industry in relation to the demand, the fight will be wicked and the profits very slim.

(TURN TO PAGE 162, PLEASE)

\$20,000 Slogan

THE KIND OF OPERATING improvement that the management of the sales fleet of the Bowman Dairy Co. likes to report is exemplified by a recently inaugurated policy which seems to promise annual savings of \$18,000 to \$20,000 in our gasoline costs. This change is being accomplished through the simple procedure of asking the drivers of our 1500 to 1600 motor vehicles on milk delivery routes in the Chicago area to "shut off your motor every stop."

At the time of this writing, the program has extended through nearly ten months. We have compiled our gasoline-use records for the first nine months of this period—from June, 1948, through February, 1949, with added estimates for March—and each month has shown substantial gasoline cost savings, as compared with the previous year. The average works out to approximately \$1800 per month.

These savings were greater during the last five record months (October through February) than during the first four months of our test. One possible explanation is more favorable average driving temperature for last winter, as compared with the previous winter. It seems true, also, that a part of this improvement for the last five record months has resulted from a stepped-up Preventive Maintenance program. However, the total record for the entire ten-month period shows large gasoline costs savings for our sales fleet; and this seems definitely to prove that the new plan will represent substantial gasoline economies during the entire year ending May 31, 1949.

Our company is now operating over 1500 units of sales delivery

**Shut Off
Your Motor
Every Stop**

ABOVE Gummed sticker, 3½ in. in diameter, has white letters on blue background. Photo at right shows how it is applied to left side of dash panel



By Walter J. Metzger,
Fleet Supt., Bowman Dairy Co., Chicago

trucks, averaging a grand total of about 800,000 miles per month. About 250 of these are of larger type for wholesale and store deliveries, and the others are of smaller size for residential or retail deliveries. During a day, a sales routeman in a residential area may make 125 to 150 separate deliveries. The stops of his truck may vary from 5 to 10 minutes or more, depending on whether he will make a single delivery or a group of deliveries, as to near neighbors or in an apartment building.

As a preliminary check on the practicability of our new "shut-off-your-motor-every-stop" plan, we made tests during the months of April and May, 1948, in our Irving Park division. Here we are operating 172 sales motor units, and we considered the sales delivery problem of this section typical for our 13 different sales divisions.

Results in gasoline savings from this try-out test of two months seemed quite convincing. Then we decided to extend the test during the month



A brief and factual account of a \$20,000 annual saving, accomplished by 1600-vehicle dairy fleet, through the simple expediency of "Shut Off Your Motor Every Stop" campaign



ABOVE Typical retail delivery unit of Bowman fleet. **LEFT** Slogan sticker shown mounted on instrument panel

developed two pieces of art printing. One was a reminder sign on blue paper, circular in shape and $3\frac{1}{2}$ in. in diameter, reproduced at the beginning of this article. It was designed for sticking on the instrument panel board inside the cab, so as to be always in clear view of the driver when operating his truck. The stick-on sign carries conspicuous white lettering which cautions the driver to "Shut Off Your Motor Every Stop."

This sticker was supplemented by the printed white "Key" card (reproduced below) which, because of its novelty, got immediate attention.

Previous to our initial tryout of the plan, it was feared that many additional daily engine starts might result in an excessive drag on batteries, and that there might be additional emergency road calls and shop

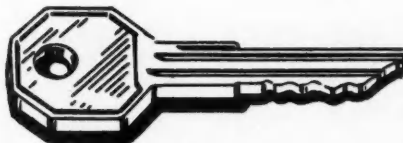
(TURN TO PAGE 119, PLEASE)

BELOW This printed $3\frac{1}{2} \times 6$ in. card proved to be most effective means of getting and holding driver cooperation

of June to all drivers of our motor sales trucks. But there were no hasty decisions. Possibilities of the new plan and the problems involved were discussed with the sales managers from all the divisions. These sales managers in turn discussed the matter with their respective sales driver foreman; and they likewise followed up by getting opinions from route drivers.

A part of this procedure was to gain the advance interest of our sales fleet foreman and also, through him, the interest of all of the drivers who now must be counted on to keep the program thoroughly in effect. To aid in the "put-over" of the program with all of our sales truck drivers, we

The Best Gas Saver!

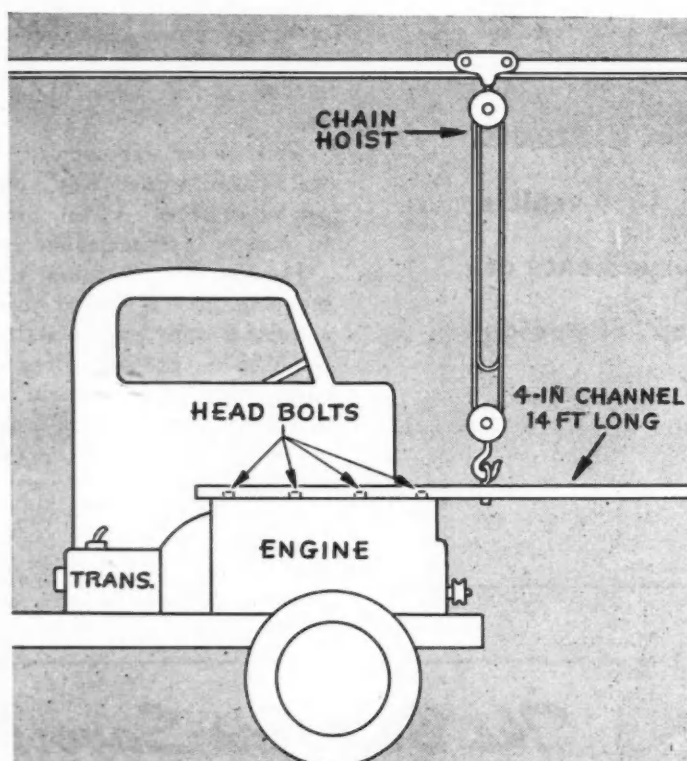


YOUR IGNITION KEY!

Shop hints

from FLEET SHOPS

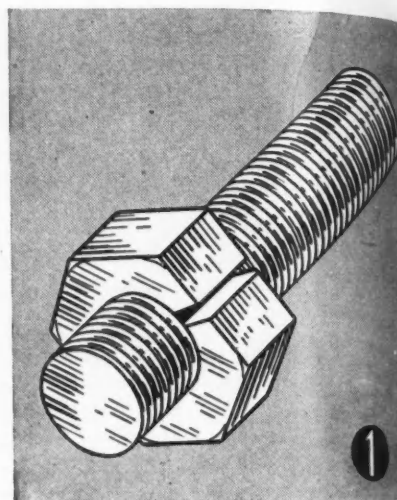
\$25 Hint of the Month ★



➤ ➤ ➤ LET'S SEE WHAT YOU'VE GOT ➤

\$25 FOR THE BEST HINT PUBLISHED
EACH MONTH . . .

\$5 FOR ALL HINTS
PUBLISHED EACH MONTH



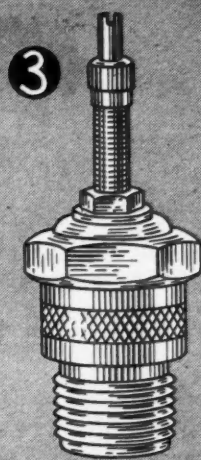
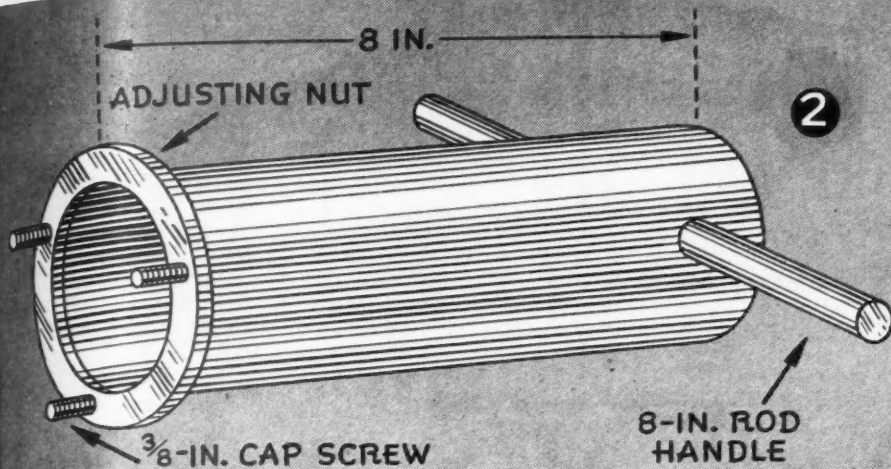
COE Engine Installation

by Andy Camblin

Shop Foreman, Western Auto
Transports, Denver, Colo.

Quick installation of engines on Dodge and other COE trucks can be accomplished using a 14-ft. length of 4-in. channel iron bolted to the center row of head bolts. Radiator, water pump and all center bolts must be removed to provide a flat surface for the channel. A ring is welded to the channel iron three feet from the end to provide a hook for a chain hoist. Thus the hoist raises the engine to proper height while a man on the other end of the channel iron lever guides the engine into the chassis.

Whether it's a new shop tool, a short cut to service, an overhaul idea, or a better way to run a truck—we want to consider it for publication on these pages. Contributors to our shop hints will tell you that it's easy to make the grade. Just outline your idea—maybe draw up a simple diagram. We'll put our editors and artists to work on it—and pay you for your trouble. Will we hear from you soon?



1. Stud Holder

by George C. Nagle
Jones Lumber Co.
Portland, Ore.

One day I had to make some studs with threads on both ends. After running the treads on one end, to hold the stud without damaging the threads, I sawed through one side of a nut with the same threads, screwed the nut on the stud, and clamped the nut in the vise.

In this way I didn't crush the threads and yet held the stud firm.

2. Bearing Adjusting Tool

by Howard L. Kline, General Foreman
Beth Allen Sales Co.
Allentown, Pa.

Here is a rear wheel bearing adjusting tool made from a salvaged bearing nut, an 8-in. piece of drive-shaft tubing and three 3/8-in. cap screws. The screws are welded into

the three holes of the nut, and the tubing is welded to the nut as shown. Holes are drilled through the tubing at the other end and a 3/8 x 8-in. round handle is inserted. This wrench will fit rear wheel bearing nuts on 82C and 89C rear axles used in White WB and WC models.

3. Coolant Leakage Tester

by Chas. Esch, Field Engineer
Kendall Refining Co., Bradford, Pa.

For quick checking of cylinders for coolant leakage we weld or braze a valve stem to an old spark plug base. The finished job then replaces the spark plug.

To make the check put the vehicle in gear, set the brakes and turn the piston up TDC on the power stroke. Apply pressure to the valve stem with an air hose. A leak will show up by a rapid rise in the coolant level accompanied by bubbles.

4. Valve Guide Gage

Missouri State Highway Dept.

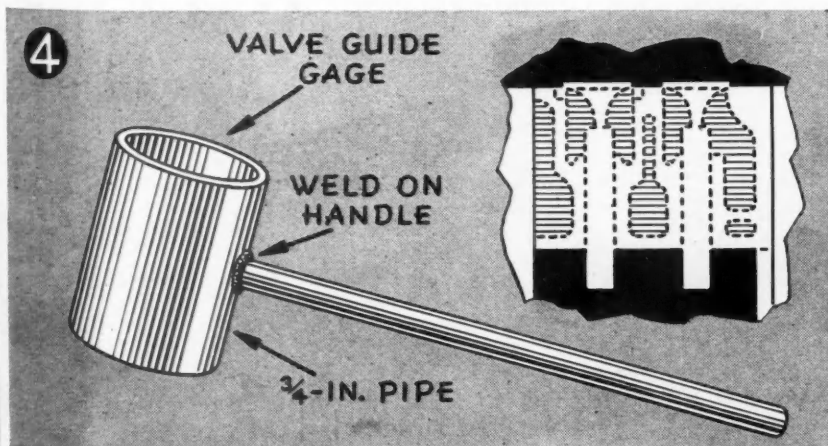
A simple gage for checking proper position of valve guides when installed in an old block is in use in the headquarters garage of the Missouri State Highway Department. Since the valve guides are pressed in place and may be driven in too little or too much, a quick method of measuring saves much time.

The gage consists of a piece of 3/4-in. iron pipe cut to the exact length the valve guide should extend from the block. To this pipe a handle is welded. To use it is only necessary to place the pipe over the valve guide and note the position of the guide. The guide should be even with the pipe end.

5. Valve Grinding Tip

by John Lister
Fowser Fast Freight, Inc.
Millville, N. J.

In grinding valve seats in an L-head engine we believe it is important to keep the abrasive dust from coming in contact with cylinder walls and pistons. To accomplish this in a simple manner we take a heavy piece of wrapping paper and lay the old head gasket on it making out stud holes, using just enough paper to cover all cylinders. A gasket punch is used to punch holes the desired size. Paper is then slipped over studs and a piece of masking tape placed over edge and run the length of block between cylinder walls and valve seats. This gives a dustproof edge and a snug fit around studs.





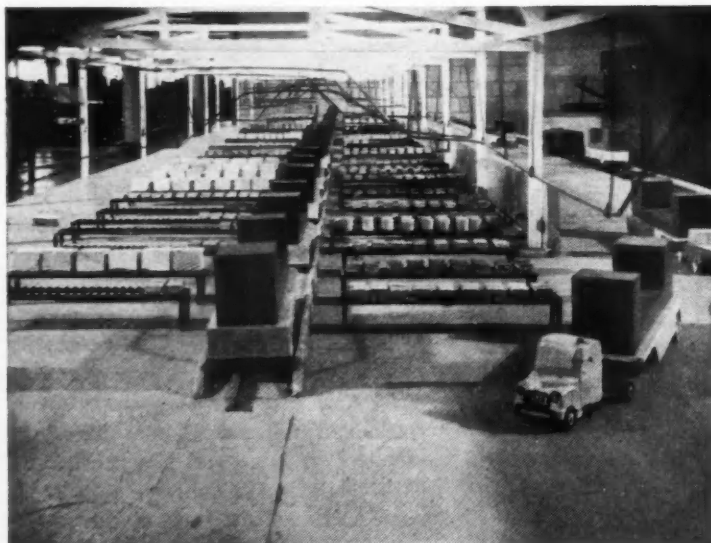
ON THE HIGHWAY the complete Lustron home looks like this. Fruehauf has orders for \$7,000,000 worth of the special trailers, and White is supplying many of the power units

by Don Stull

Home, Home

1600 specially-built trailers will carry complete five-room Lustron homes from plant

MODEL of the giant Lustron shipping department shows how trailers will be moved along assembly line by chain conveyor. They will be picked up by tractor at near end



UNLOADED trailer has 80 compartments designed to hold 3300 parts exclusive of 4000 nuts and bolts in bottom section. Items used first are loaded last



IF YOU SEE the big bay window of a modern American home rolling down the highway in front of you one of these days, don't be alarmed. It won't be an hallucination. It'll just be an American trucker who has hitched his rig to the world's longest assembly line in an effort to help solve the nation's housing shortage.

He'll be rolling along from the Columbus, Ohio, plant of Lustron Corp., a home-manufacturing firm which is using tractor-trailers to extend its assembly line from the factory to foundation sites in all corners of the country.

It's the most unusual transportation-mass production scheme of the century and the key figure in it all is a specially-designed trailer. That trailer does service in the factory assembly line. It hauls the homes

across country and also serves as an assembly workshop on the construction site. It's been tried and tested many times and currently is engaged in distributing Lustron's all-steel porcelain enamel homes throughout America.

It's the answer to a long-time dream of Carl G. Strandlund, president of the Lustron firm. "I've always thought a home could be packaged and delivered just like a loaf of bread or a box of cookies," Mr. Strandlund said, "but it never was possible until we hit upon the truck idea. Trucks have access to corners of the nation that railroads never reach and shipping that way is cheaper and safer."

The Lustron homes are finished like a highly-glossed saucepan you'll find in any kitchen. Officials of the



MOVEMENT of estimated 1600 trailers will be plotted on special dispatching board. R. E. Reedy, left, general traffic manager, and William Welsh, head of motor transport, look on

firm found that shifting and swaying on railroad cars often damaged the cargo and homes arrived on the site with many parts chipped. To avoid this meant extra packaging and added expense.

(TURN TO PAGE 172, PLEASE)

e on the Road

lant in Columbus, O., to all parts of the nation



PORCELAIN-FINISHED steel panels, protected by filler strips, ride securely in numbered compartments. Heating and plumbing units ride in open center section

LUSTRON HOME is all steel, has five rooms, sells for approximately \$8,000. It takes about four days to erect during which time the trailer doubles as field headquarters

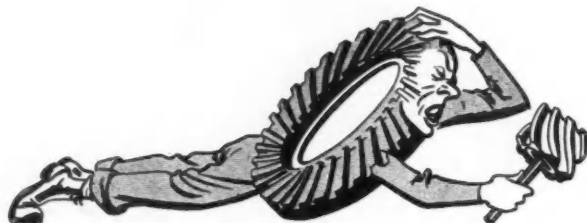


MURDER!

in the Fleet Field



... the Victim



DIFFERENTIALS

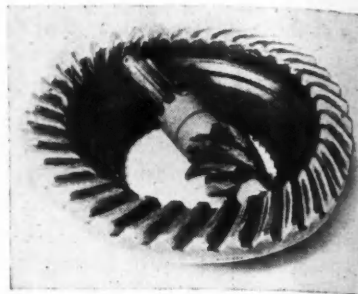
Road failures, labor overtime, delays, excessive maintenance costs result from parts "slaughtered" by mechanics as well as drivers

Ring gears, pinions, spider gears and differential carriers may be massacred in masses when careless maintenance methods, improper lubrication or abusive driving take over. It's up to the fleet shop and the man behind the wheel to liquidate offending causes of unsatisfactory service.

Here is a guide to causes and effects of various differential breakdowns. Photographs obtained from Timken Detroit Axle Co. and Eaton Mfg. Co. show conditions resulting from common abuses. We have attempted to "tag" these failures, to list reasons for gear and bearing demise, to show fleetmen what can be done to obtain longer life from this assembly.

CAUSE:

Insufficient Lubricant



EFFECT:

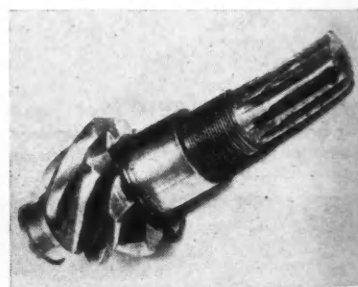
Scored and scuffed teeth. Scuffed area is spread well over tooth area. Metal has reached the plastic stage and was drawn across the tooth face.

REMEDY:

This condition is created by the metal to metal contact when there is insufficient oil film between the matching teeth. Inferior oil does not have sufficient film strength and will break down in normal service. Good oil used for too long a period will act the same way. Subjecting lubricants to excessive heat may produce the same effect. Excessive torque output can create high tooth pressures to cause lubricant to be forced from between bevel teeth, resulting in scoring and scuffing.

CAUSE:

Propeller Shaft Misalignment



EFFECT:

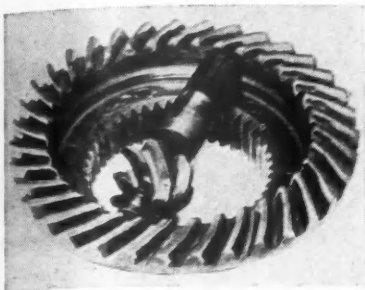
Misalignment between the propeller shaft and the bevel drive pinion caused this failure. A bent drive shaft or one deflecting under load is the direct cause.

REMEDY:

The torque tube or drive shaft housing should be checked when such conditions are found. When repeat failures occur, a heavy-duty drive line should be installed. Replace gears in matched sets and be sure all damaged parts are replaced.

CAUSE:

Improper Gear Adjustment



EFFECT:

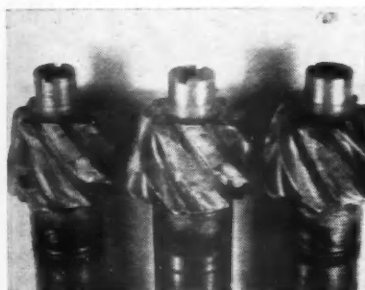
Scoring at the toe ends of the bevel teeth is evident.

REMEDY:

Readjustment of gears that have become noisy after a period of service usually aggravates the condition rather than eliminates it. Change in adjustments will frequently concentrate the bearing area to a small portion of the teeth, resulting in failure or fracture.

CAUSE:

Improper Adjustment



EFFECT:

Fatigue failures caused from bending and faulty adjustment are usually progressive in nature. Cracks form and progress continually until tooth is so weakened that a complete fracture results.

REMEDY:

Excessive torque applied as a result of a grabbing clutch, overload, or careless vehicle operation can be remedied by insisting upon care in driving heavily loaded vehicles and proper operation of vehicle by driver.

CAUSE:

Excessive Loads, Severe Service



EFFECT:

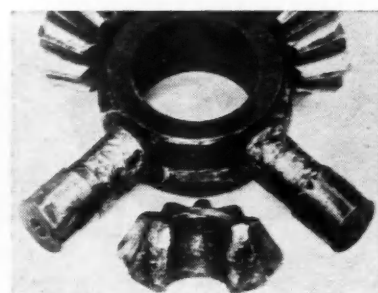
Pitted areas concentrated at the heel ends of the pinion teeth on the drive sides indicates deflection in the assembly a result of abnormal pressures. When severe service throws the pinion out of its proper position in relation to the ring gear, unit pressures build up on the heel ends of the teeth, break down the lubricant and cause teeth pitting.

REMEDY:

Use recommended oils of known brand and quality. The more severe the service, the greater the need for quality lubricants. Replace gears in matched sets to insure proper tooth contact and proper adjustment.

CAUSE:

Wheel Spinning, Inadequate Lubrication, Overstress



EFFECT:

Scoring and seizure of the spider arms and differential pinions is accompanied by discoloration of surfaces due to generated heat. When lubricating oil film breaks down between the adjacent surfaces, friction causes the hardened areas to overheat, score and finally seize.

REMEDY:

Use good quality recommended lubricants. Check payloads and operating conditions. Avoid excessive wheel spinning due to heavy loads on winter roads or poor road conditions at any time.

CAUSE:

Normal Fatigue



EFFECT:

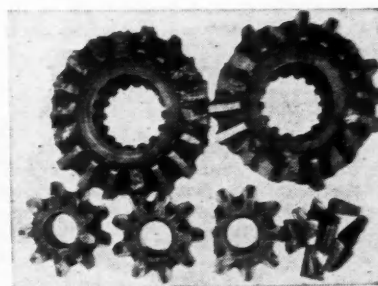
The fatigue fracture develops over a period of time, working through the metal of the tooth section until a point is reached where there is not sufficient strength to carry the load. Final failure occurs and a portion of the tooth is torn out. Clear cut wavy area identifies failures of this type.

REMEDY:

Momentary excessive stresses applied through the gears frequently crack tooth surfaces. Abnormal and abusive operations such as bucking to start an overload or frogging to pull out of a bad spot will contribute to this. Continued operation of pitted gears will result in fatigue fractures.

CAUSE:

Improper Vehicle Operation



EFFECT:

Repeated stresses cause progressive failures of this type. Continued applications open original fracture until there is insufficient strength left in differential side gears to carry the load. Portions of gear are broken out.

REMEDY:

Jerking or bucking the vehicle tends to produce this abnormal pressure and start fatigue failures. Overloads, when not handled properly, contribute to such breakdowns. Train drivers to handle such loads with skill and caution.

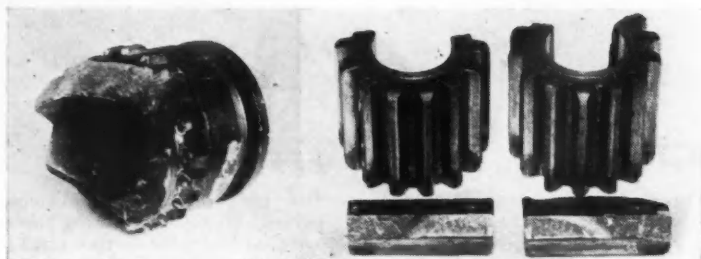
(TURN TO NEXT PAGE, PLEASE)

MURDER in the Fleet Field...

Continued from Page 79

CAUSE:

Shock Loads



EFFECT:

Shock loads greater than maximum strength of gears produce a break with a grainy appearance of the fracture in both idler and sliding clutch gear. Break shown no progressive development as is true with fatigue fractures.

REMEDY:

Shock fractures of planetary gears occur most frequently in severe operations. Abusive handling may produce same conditions. If any of the four idlers have broken, it is advisable to replace all, since such cracks may be obscured by oil film, or may be small enough to pass unnoticed.

CAUSE:

Worn Pinion Bearings or Abusive Driving

EFFECT:

Contact surfaces on the coast sides of the teeth are severely scored yet drive sides are undamaged. Bevel gears in this condition run quietly under load on the pull, but are noisy on the coast or in reverse.

REMEDY:

Worn pinion bearings allow end play of the pinion and result in improper contact between the gear and the pinion teeth on the coast sides. The contact areas

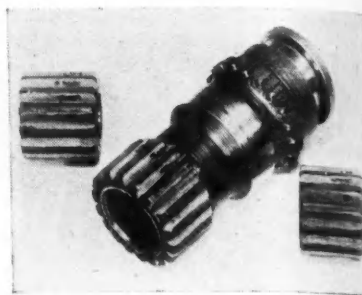
are localized and the unit pressures are greater than can be carried by the oil film. When this happens, the friction of metal on metal creates heat and scoring occurs.

Driving factors contributing to this type of failure consist of operating at high speeds on down grades and using the clutch to break the speed when the transmission is in one of the lower ratios.



CAUSE:

Excessive Loading

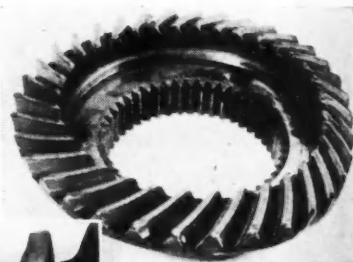


EFFECT:

Idler pinions and sliding clutch gear show damage. Pitted areas appear on idler pinion teeth near one end and in corresponding areas on the gear.

REMEDY:

Excessive loading created deflection in the assembly and the contact areas or bearing areas were concentrated at one end of the teeth. Pressures were sufficiently high to break through the oil film and breakdown the tooth surfaces. Load within capacity of vehicle in consideration of working conditions and insist on proper driving practices.



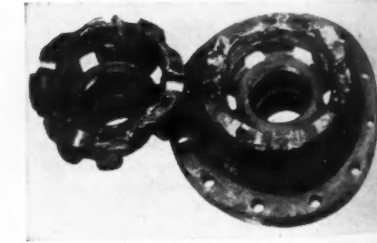
CAUSE:

Loose Differential Bearing Adjustment

EFFECT:

Progressive fatigue failure of the case at

the hub results from bending action upon the case caused by the looseness of the bearings or from excessive clearance between the ring gear thrust block and the back face of the gear. Loosening of the bolts in the differential case will allow the two halves to wear against each other and result in eventual failure.



REMEDY:

Extreme overloading and erratic clutch operation contribute to this failure. Check all bearings when the unit is down. Replace all parts showing wear. Have mechanics recheck all adjustments. (TURN TO PAGE 120, PLEASE)

A Systematized Fleet Safety Program

BY THE BUREAU OF HIGHWAY SAFETY . . . NATIONAL COUNCIL

PRIVATE MOTOR TRUCK OWNERS, INC., WASHINGTON, D. C.

The Why and How of First Aid Training



The

Why

SAFETY TEXT • NUMBER 8

IN SPITE OF ALL that is being done to promote greater safety upon our highways, accidents still occur. Accidents will occur at times when immediate assistance is unavailable and upon stretches of road remote from immediate medical care.

When an accident occurs and someone is hurt, it is a natural impulse to try to do something to help the injured. Frequently the only thought is to load the injured person into a passing vehicle and rush in the direction of the nearest doctor or hospital. In the meantime, the precious minutes in which a life might have been saved are gone. Control of arterial bleeding, shock treatment and prevention of further aggravation of the injury until the doctor can arrive may easily make the difference between life and death. Or again, by unskilled handling and transportation a simple fracture may be compounded with possible serious results.

Intelligent first aid saves lives and puts the victims of accidents into the hands of the medical profession with a much better chance for satisfactory recovery than they might otherwise have.

Training your drivers in "First Aid" is good insurance from an economic as well as humanitarian viewpoint.

It will tend to make your drivers more "safety conscious." Too, the financial drain resulting directly from injuries or from loss of time draws heavily upon the victim and upon his family as well as upon the organization or industry with which he may be connected, so that a pronounced economic saving follows as First Aid training contributes to a curtailment of these difficulties through proper emergency care and through its emphasis upon accident prevention.

What is Meant by First Aid

The American Red Cross, long recognized as a leading authority on this subject, states: "First aid to the injured is what is done first in an accident, not with the idea of a cure, but in order by prompt action to prevent death or, in less serious cases, which are by far the more common, to prevent further harm being done and so put the victim of the accident in the best possible condition for later and more extensive treatment."

It must always be remembered, however, that a regular physician is best qualified to take care of the injured. There should be no clashing of interest between the professional medical man and the First Aider—for the duties of the former begin when the latter leaves off. First Aid is only designed to enable trained persons to put victims of accidents into a doctor's hands in the best possible condition for further treatment and cure.

What First Aid Does

Truck operators who have the majority of their employees trained in first aid usually have better safety records. First aid training makes men more careful.

A well-trained first-aid man will not take the chances that an untrained one will take, for he realizes how serious the results of an accident can be. He has learned to have a better understanding of the causes of accidents. He will exert a desirable safety influence on those with whom he works.

First-aid training not only provides for emergency care of accidental injuries but does much for the general character building and development of drivers, and thus contributes in large measure to accident prevention.

It will make men think of the cost of accidents in terms of physical pain or the likelihood of being physically handicapped.

It will stimulate thinking in terms of safety in new or unusual situations.

It will stimulate safety analysis of each job.

It will give men a better understanding of the construction and limitations of the human body.

It will prevent additional injuries resulting from improper handling of the injured person after an accident has occurred.

It will bridge the gap between an accident and professional medical care.

(TURN TO NEXT PAGE, PLEASE)

NO. 8 FIRST AID TRAINING

The **How** of FIRST AID TRAINING

SAFETY INSTRUCTION No. 8

FOR OBVIOUS REASONS, we shall not attempt here to give a detailed course of instruction in applying First Aid.

Instead we shall broadly outline how such training may be acquired, who should receive such training, what facilities are available for teaching First Aid, what is necessary to inaugurate a First Aid instruction program for your employees.

Selecting First Aid Trainees

Any intelligent person can learn First Aid and its application. Like every other subject, however, it must be given diligent study. A prerequisite is that the person submitting to training must be interested in the subject in order to acquire this special knowledge and skill.

Therefore, the first preparatory step should be the presentation of the program in such an interesting manner as to bring to your men an immediate realization of its importance and an eagerness to avail themselves of the opportunity of becoming well trained in First Aid. This can be accomplished through personal contacts, group meetings or the like, where questions can be asked and answered. Your employees should be expressly told what the training consists of, where the course of training will take place, how long it will take, and what will be the benefits to them.

Selling Advantages of First Aid Training

The advantages of First Aid Training for truck drivers should be stressed by management. Drivers operating at some distances from their plants should be particularly interested in the opportunity for such training, for should they become injured they would be able to either treat themselves or instruct others as to what should be done. They would also be in a position to render valuable assistance to the police or the public in case of emergency.

Emphasis also should be placed on the benefits to be derived from such training not only to the individual himself, but to his entire family as well. It will give him knowledge which he can use immediately at any time and place. Knowledge so gained will be retained throughout his life. It will also make him a more valuable employee.

Who Can Best Teach First Aid

The Standard First Aid Training Course as developed and given by the American Red Cross or the U. S. Bureau of Mines is recommended.

This course requires a minimum of 18 hours of class instruction for completion and must be given by a properly appointed and certificated instructor, medical or lay, of the American Red Cross.

The Standard Course may also be followed by an Advance Course of 12 hours' instruction.

Red Cross First Aid Certificates, recognized for a 3-year period, are issued to trainees upon successful completion of these courses.

Textbooks and Materials for Instruction

The Red Cross First Aid Textbook (Revised) forms the basis for all instruction in Red Cross courses, and a copy of this textbook is required for all trainees for study and lesson assignments.

These textbooks may be obtained from local Red Cross Chapters.

Numerous other publications, instruction charts, supplies and insignia for First Aid training, as well as First Aid kits, splints and stretchers, are also available at nominal cost through area offices of the American Red Cross.

The National Safety Council, large insurance companies and many other organizations interested in safety also have much material available on First Aid procedure for the benefit of those who wish to take advantage of a First Aid training program.

Arranging the Training Classes

In arranging First Aid training for your employees, it will first be necessary to ascertain the number of men who are willing to take this type of training (which is usually given on the employee's own time). Then, *contact your local Red Cross Chapter and discuss the matter with them.* They will arrange to secure an instructor who will train your men.

Experience has proven that classes of from 20 to 25 trainees are the most effective. Individuals or small groups within the same community often band together to make up a class.

The training place will then have to be selected and determination made of the date and time the class is to meet at regular intervals. The amount and kind of First Aid training material and equipment as well as the necessary number of First Aid textbooks (all of which will have to be furnished by the company or employer) must be ascertained and purchased. As before stated, this material may be obtained through your American Red Cross Chapter.

Awards

To further stimulate interest in this important phase of your organized accident prevention program, it is recommended that you give some sort of an award to each employee who satisfactorily completes the Standard First Aid Course.

A First Aid kit makes an appropriate award. Suitable medals, pins and other insignia are also purchasable through the Red Cross for this purpose.

* * *

First Aid training, with its multiplicity of detail, may easily be forgotten unless the subject is constantly kept before you. Consequently, "refresher" courses are recommended so as to maintain the students' interest, knowledge and skill.



SAFETY INSTRUCTIONS

In This Highway Safety Program for Commercial Vehicle Operators

THIS ISSUE: First Aid Training

PRECEDING ISSUES:

Management Responsibility
Driver Responsibility
Driver Selection, Training and Supervision
Accident Reports and Records
Human Engineering
Visual Information . . . Contents . . . Awards
Group Safety Meetings . . . Development of Safety Committees

SUCCEEDING ISSUES:

Conservation of Equipment
Unusual Highway Hazards; Winter Driving; Holiday Hazards; Night Driving; Highway-Railroad Grade Crossings
Fire Prevention
Safety Through Courtesy . . . Defensive Driving

Your Own Highway Safety Program

This and other installments are arranged for easy removal and insertion in standard three-ring binder. Save them! Use them!

Copyright, 1949, by National Council of Private Motor Truck Owners, Inc.



AUTHOR Al Murphy points to "Scotchlite" stripping used as a safety precaution on the rear of all Journal trucks. At right, driver Joe Dummier, who holds 10-year no accident record at wheel of typical Metro-type truck

By Al Murphy

Transportation Manager, The Oregon Journal, Portland, Ore.

5-STAR FINAL On Fleet Safety

V NEWSPAPERS must be delivered promptly, regardless of road and weather conditions or even internal fleet problems. To help our 28-truck fleet get the papers to their varied destinations promptly we instituted, some time ago, a five-point program with the accent definitely on safety. A liberal dosage of daily preventive maintenance was also thrown into the bargain as one of the major points. Here's how it works:

Annual Three-Part Exam

ONCE each year every driver is required to take the complete Neyhardt test as recommended by Penn State College. This test (which all driver applicants must also pass) is divided into three parts:

First, a physical examination by the company doctor, and then a physical test in writing in which the driver rates his own condition.

Second, a driving test in which each driver and his unit are taken to the state testing depot and put through the official tests. The driver then makes out a form on which he is rated as to his knowledge of state and city laws and regulations, and general road courtesies.

The third test is called the psycho-

analysis test. For this we also use forms furnished by the Penn State Neyhardt course.

The forms resulting from these three test divisions are checked and filed in a driver's folder. Every 30 days these tests are taken out and studied. If a driver has even a minor accident he is called in and the forms taken out and the driver and the truck manager go through them point by point.

If these tests show that a certain driver is prone to night accidents, he is shifted to a daytime driving job. The same for city and country runs, large and small trucks, etc.

There is no sure-fire guarantee to this system just as there is no guarantee to any system. However we have found that this driver's screening tells us and the driver a great deal about himself that would not otherwise be brought to light. It enables us to advantageously shift drivers to a type of driving which best meets their own qualifications. And it enables us to go a long way in eliminating a bad driver before that man is assigned a route and truck.

Regardless of rules and regulations, once a driver is "on" it is an
(TURN TO PAGE 104, PLEASE)

- ★ Annual re-examination for drivers
- ★★ Bonus for each no-accident month
- ★★★ Daily vehicle mechanical check
- ★★★★ Monthly safety-news bulletin
- ★★★★★ Annual "honor-guest" banquet

On the Record

In Only 30 Minutes a Day

Compact system provides quick posting of all details pertaining to 14 over-the-road units at terminal shop including duplicates for home office

By C. R. Fulkerson

Los Angeles Maintenance Supt., Illinois-California Express
(Formerly the Los Angeles-Albuquerque Express)

BASIC file folder for each ICX unit consists of front page (above), inside pages (at top right) and back page (not shown) for additional remarks. It is printed on tight cardboard, when folded, measures 8½x11 in.



ALL 14 units of ICX (formerly LAX) assigned to Los Angeles terminal are heavy-duty types. Most tractors are six-wheelers, and most trailers are tandems

THE TROUBLE we have found with terminal shop maintenance records is this: if they give any sort of accurate picture, it requires most of one man's time to keep them posted. Terminals are usually shorthanded, especially when it comes to book-keeping personnel.

We have worked out a set of forms here at our Los Angeles terminal shop which are now in use for the entire system, and are being used by a number of other lines in this area. With this system it never requires more than 30 minutes a day to complete all forms and post all records

for the 14 tractor-trailer units at our terminal. Here is the way it works:

First we use a standard repair order for all work. One of these tickets in duplicate is made out for each truck serviced each day. The original repair order is mailed in each evening to our head office in Denver. The copy is filed at our terminal in individual truck files as a permanent record of all work done in our own shop.

The truck file itself is a three-section record sheet on light cardboard, folded once to a standard 8½ x 11 in size to hold the other forms for each unit. On the front sheet or cover of this file form we place the unit number and the date it was entered in our service. Then in proper columns we enter each date the unit hits our terminal, the mileage and, under a "shop" column,

Unit No. _____			I C - X EQUIPMENT MAINTENANCE RECORD		
Date Entered Service _____					
2,000 Mile Service					
Date	Mileage	Shop	Date	Mileage	Shop
1			35		
2			36		
3			37		
4			38		
5			39		
6			40		
7			41		
8			42		
9			43		
10			44		
11			45		
12			46		
13			47		
14			48		
15			49		
16			50		
17			51		
18			52		
19			53		
20			54		
21			55		
22			56		
23			57		
24			58		
25			59		
26			60		
27			61		
28			62		
29			63		
30			64		
31			65		
32			66		
33			67		
34			68		
35			69		
36			70		
37			71		
38			72		
39			73		
40			74		
41			75		
42			76		
43			77		
44			78		
45			79		
46			80		
47			81		
48			82		
49			83		
50			84		
51			85		
52			86		
53			87		
54			88		
55			89		
56			90		
57			91		
58			92		
59			93		
60			94		
61			95		
62			96		
63			97		
64			98		
65			99		
66			100		
67			101		
68			102		
69			103		
70			104		
71			105		
72			106		
73			107		
74			108		
75			109		
76			110		
77			111		
78			112		
79			113		
80			114		
81			115		
82			116		
83			117		
84			118		
85			119		
86			120		
87			121		
88			122		
89			123		
90			124		
91			125		
92			126		
93			127		
94			128		
95			129		
96			130		
97			131		
98			132		
99			133		
100			134		
101			135		
102			136		
103			137		
104			138		
105			139		
106			140		
107			141		
108			142		
109			143		
110			144		
111			145		
112			146		
113			147		
114			148		
115			149		
116			150		
117			151		
118			152		
119			153		
120			154		
121			155		
122			156		
123			157		
124			158		
125			159		
126			160		
127			161		
128			162		
129			163		
130			164		
131			165		
132			166		
133			167		
134			168		
135			169		
136			170		
137			171		
138			172		
139			173		
140			174		
141			175		
142			176		
143			177		
144			178		
145			179		
146			180		
147			181		
148			182		
149			183		
150			184		
151			185		
152			186		
153			187		
154			188		
155			189		
156			190		
157			191		
158			192		
159			193		
160			194		
161			195		
162			196		
163			197		
164			198		
165			199		
166			200		
167			201		
168			202		
169			203		
170			204		
171			205		
172			206		
173			207		
174			208		
175			209		
176			210		
177			211		
178			212		
179			213		
180			214		
181			215		
182			216		
183			217		
184			218		
185			219		
186			220		
187			221		
188			222		
189			223		
190			224		
191			225		
192			226		
193			227		
194			228		
195			229		
196			230		
197			231		
198			232		
199			233		
200			234		
201			235		
202			236		
203			237		
204			238		
205			239		
206			240		
207			241		
208			242		
209			243		
210			244		
211			245		
212			246		
213			247		
214			248		
215			249		
216			250		
217			251		
218			252		
219			253		
220			254		
221			255		
222			256		
223			257		
224			258		
225			259		
226			260		
227			261		
228			262		
229			263		
230			264		
231			265		
232			266		
233			267		
234			268		
235			269		
236			270		
237			271		
238			272		
239			273		
240			274		
241			275		
242			276		
243			277		
244			278		
245			279		
246			280		
247			281		
248			282		
249			283		
250			284		
251			285		
252			286		
253			287		
254			288		
255			289		
256			290		
257			291		
258			292		
259			293		
260			294		
261			295		
262			296		
263			297		
264			298		
265			299		
266			300		
267			301		
268			302		
269			303		
270			304		
271			305		
272			306		
273			307		
274			308		
275			309		
276			310		
277			311		
278			312		
279			313		
280			314		
281			315		
282			316		
283			317		
284			318		
285			319		
286			320		
287			321		
288			322		
289			323		
290			324		
291			325		
292			326		
293			327		
294			328		
295			329		
296			330		
297			331		
298			332		
299			333		
300			334		
301			335		
302			336		
303			337		
304			338		
305			339		
306			340		
307			341		
308			342		
309			343		
310					

I C X

EQUIPMENT MAINTENANCE RECORD

Make and Year.

Engine Make and Model.

	Date Due	Approx. Mileage	Date Comp.	Mileage	Shop	Date Due	Approx. Mileage	Date Comp.	Shop	Date Due	Approx. Mileage	Date Comp.	Mileage	Shop
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														
31														
32														
33														
34														
35														
36														
37														
38														
39														
40														
41														
42														
43														
44														
45														
46														
47														
48														
49														
50														

PREVENTIVE MAINTENANCE WORK SHEET
10,000 Mile Service for Hall Scotts

Mileage _____ Date _____ Truck No. _____

(X) O.K.	(X) Adjustments Made	(O) Repairs needed
<u>Check Mech.</u> <u>Column No.</u>	<u>Check Mech.</u> <u>Column No.</u>	<u>Check Mech.</u> <u>Column No.</u>
_____ 1. Spark plugs	_____ 11. Brakes	
_____ 2. Distributor	_____ 12. Rear axle	
_____ 3. Fuel pump	_____ 13. Front axle	
_____ 4. Starter	_____ 14. Clutch and transmission	
_____ 5. Generator	_____ 15. Universal joints	
_____ 6. Oiling system	_____ 16. Chassis lubrication	
_____ 7. Cooling system	_____ 17. Battery	
_____ 8. Valves	_____ 18. Lighting system	

[illegible]

INSIDE each file folder are the three inspection forms shown at right for 10,000, 60,000, 120,000-mile checks. Only other form is repair order

the initials of the mechanic doing any work on the unit.

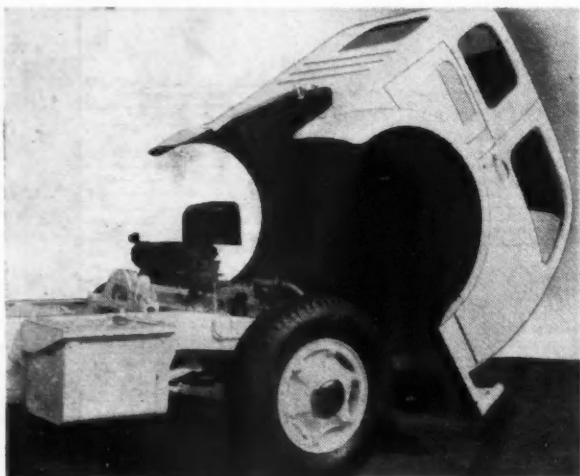
A similar file record is kept in the Denver home office, but the "shop" column of this file shows the terminal at which each unit reports as well as the mechanic reporting the work on the original daily repair order mentioned above.

On the open inside face of the file form we have columns for every type of repair and overhaul, with a column for date work is due, mileage at time of repair, date work was completed, actual mileage at time work was done and again a "shop" column for terminal mechanic initials doing the work or, in the case of the home office file, the terminal doing the work.

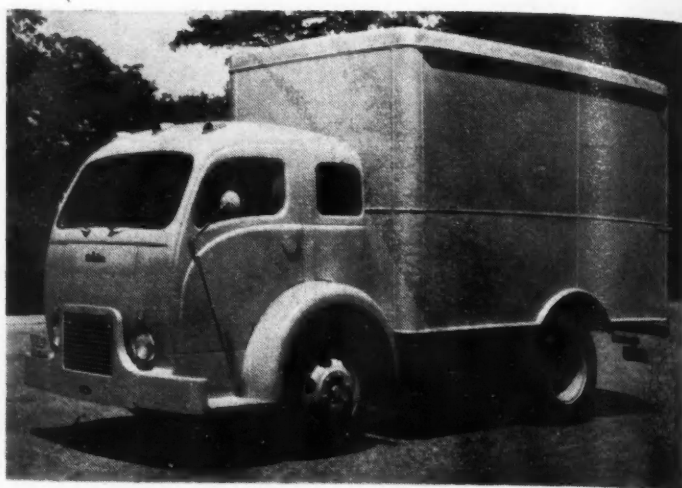
The right-hand column of the inside sheet of the file is very important.

(TURN TO PAGE 108, PLEASE)

COMMERCIAL CAR JOURNAL, May, 1949



TILTING CAB, actuated by electrically-driven screw mechanism, gives full accessibility to engine



FUNCTIONAL DESIGN includes exceptional visibility, flat cab floor, low steps and wide doors for easy driver access

WHITE

Tips Its Cab to Service

Features Unusual Functional Design

Exceptional visibility, low-mounted cab, wide doors, level floor and low steps at each side, are combined with streamlined appearance and "work bench" accessibility to engine and front end

V **FUNCTIONAL DESIGN** is the keynote of a new line of White trucks. They are known as the Super Power White Series 3000, and are designed for multi-stop delivery service in the medium and light-heavy weight class. They embody many new features, one or two of which, including the tilting cab, have been well-known "secrets" for the last several years.

The objective of the new functional design, say White officials, is more deliveries per day. The principal fea-

tures said to contribute toward the achievement of the objective are the high payload capacities of the c-o-e with the convenience of low-step local delivery design, plus new driver efficiency and safety features that contribute toward high personal production with minimum physical fatigue.

The combination of c-o-e and low-step delivery design has been achieved by an unusual frame construction which is stepped down by two different angles. This permits the cab

to be positioned at a height that is actually lower than conventional trucks of the same gv.

The driver efficiency and safety features are centered around the cab design. The cab is large and well ventilated. Wider than standard, the doors permit easy entrance and egress. The windshield is large and of one-piece construction; the floors are flat and unobstructed; the seats are individually adjustable.

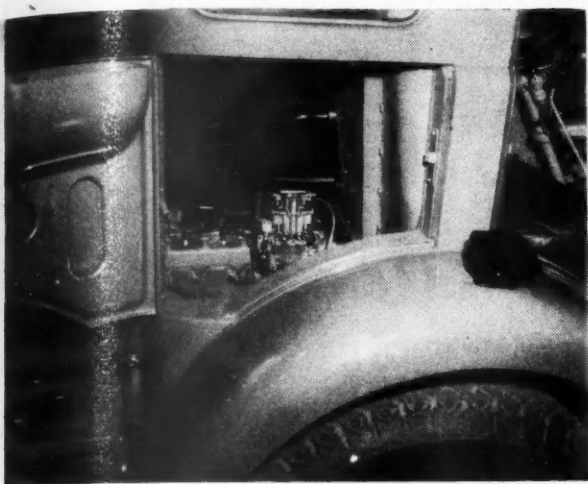
The driver's position at the front of the vehicle has been compared to that of a bus driver. He has a wide, unobstructed view which permits him to see the road within 7 ft of the bumper, and greater than average visibility at street and road intersections.

The combination of the cab design features, the high capacity front axle, and the short wheelbase makes the vehicle unusually maneuverable in heavy traffic and congested delivery areas. It is on the basis of these various features that White bases its claim of "more deliveries per day."

Maintenance Features

IN ADDITION to the smooth, free-flowing lines of the cab, the most unique and interesting feature is the tilting cab, which provides "assembly line" accessibility to the engine and other front chassis parts.

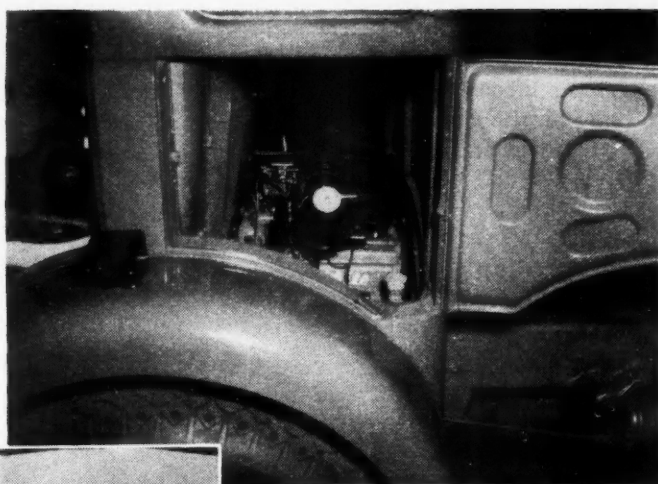
The cab tilting mechanism—a mechanical screw hoist, driven by a 6-volt, battery-operated motor—is a



RIGHT SERVICE DOOR at back of cab incorporates screened air intake for carburetor requirements



3000 Series includes tractor models



LEFT SERVICE DOOR provides quick access to water (note expansion tank), filter, oil fill pipe, and dip stick



HANDLES (left) mounted inside cab control opening and locking of side service doors illustrated above



VENTILATOR in front of cowl also provides complete access to underside of instrument panel. Screen normally across opening, is removable

ugged adaptation of the device used to operate bomb bay doors of combat aircraft. This mechanism is said to be so simple and rugged in construction as to require practically no maintenance. Tilting is actuated by a hand lever located outside, behind the cab.

Tilted forward in a 90-deg arc, the cab is practically removed to expose the entire power plant and front-end parts, at work bench height, for any needed maintenance.

To prevent tampering of the tilting mechanism, the handle of the actuating lever contains a lock that is a duplicate of the ignition lock. Thus, the same key serves both purposes. In addition to the actuating lever lock, a yoke type locking device is located at the back of the cab.

While it takes but little power, and only 25 seconds to tilt the cab, additional means of access to the engine and its parts are provided by two side doors located at the rear of the cab. These are intended for oil and water level checks, and other routine inspections and adjustments.

Through the door on the driver's side, the maintenance man has access to the distributor, oil filler cap, oil filter, and other parts, including the radiator cap located on top of a surge tank, which is part of the cooling system. Through door at the rear of the right side of the cab, the mechanic may make adjustments to

(TURN TO NEXT PAGE, PLEASE)

WHITE Tips Its Cab . . .

Continued from Page 87

the fuel system, spark plugs and other parts. It will be noticed that this door contains a screened opening. Behind this screen is a special funnel-type air intake for fuel combustion. This intake contains a butterfly-type valve that can be set to draw air directly from the outside, during warm or mild temperatures, or pre-heated air from the cab, during low temperature conditions.

Excellent accessibility to the underside of all dash instruments is possible through the ventilator at the front, below the windshield.

General Details

THE 3000 Series is offered, at present, in three models: Model 3016, with a gvw range of from 14,000 to 17,000 lb; model 3018, with a gvw range from 15,000 to 19,000 lb; and model 3020, with a gvw range from 17,000 to 21,000 lb. All three models are offered in a wide range of wheel-bases, starting at 85½ in. up to 181½ in.

With the exception of displacement, the power plant—the White Super Power engine—is the same for all models. Model 3016 is powered with a 110 hp engine; the 3018 has a 114 hp engine; and the 3020, a 120 hp engine.

De Luxe oil filters and velocity-type governors are standard equipment. The cooling system includes an 8-qt expansion tank.

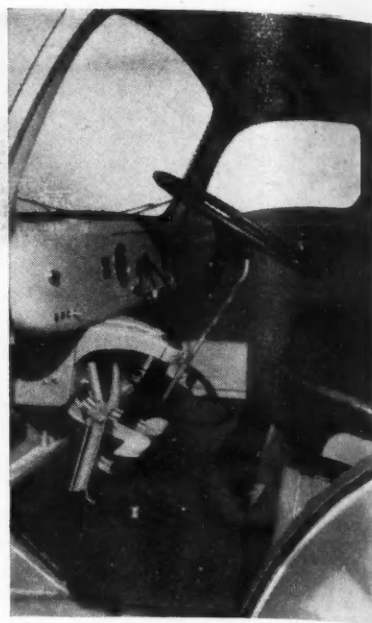
Bendix Stromberg 1¼-in., duplex, down-draft carburetors, with mechanical fuel pumps, oil-bath air cleaners, and a 25-gal fuel tank comprise the fuel system.

The effective area of the clutch for model 3016 is 124 sq in. The clutches used for the other models have an 149.5 sq in. area. The standard transmission is the 5-speed selective type. Hotchkiss drive also is standard on all models. A wide variety of gear ratios, with single and double reductions are available.

Hydrovac brakes are standard for all models; air brakes optional.

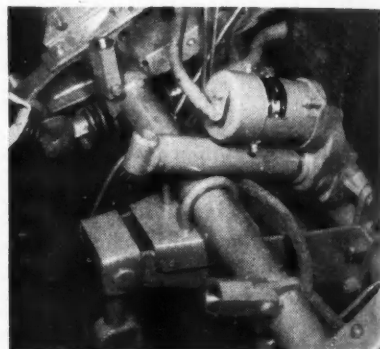
Chassis frame is the single channel type, of carbon steel, 8 x 3 in. and ¼ in. thick.

The cab is rated as 3-man size. It measures 66⅞ in., outside width; and the height, from top of floor to outside roof panel, is 62⅜ in. A crash guard, in front of the cab, is mounted to the bumper and trussed directly back to the frame. Forced air circulation in double panels under and behind the seats, and under rear deck provides insulation from engine heat. The floor also is insulated.

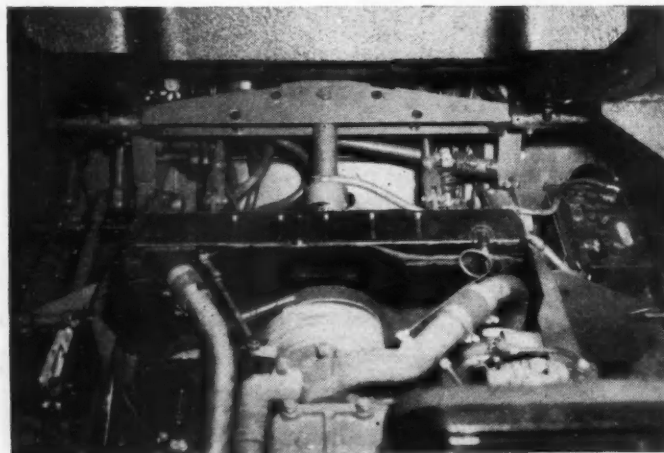


CAB INTERIOR reveals smooth unbroken floor line, roominess, exceptional up-front visibility, convenient steps. Driver's seat is adjustable

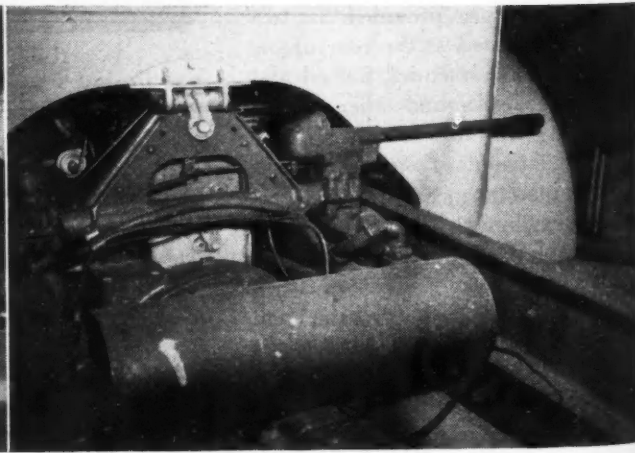
OPERATING mechanism for lift is Delco Actu-Ator. Motor is on top, gear train at right, and worm drive under motor. Coupling at left fits onto yoke illustrated at bottom, left



LIFTING YOKE takes driving force from worm, transmits it to widely-spaced points on cab



HANDLE at right rear of cab controls lifting mechanism. Lock on end takes same key as ignition



Exide BATTERIES

LOW COST PER MILE OF OPERATION
...plus a long life of dependable performance



All its service-proved features continue to make Exide the outstanding battery for commercial vehicle and motor truck service

Heavy, oversize plates... Greater capacity... Self-cleaning, non-spitting vent plugs... Double insulation between plates ... "Bull's-Eye" electrolyte leveling device... Heavy inter-cell connectors... Hard rubber container... Positive cover seals.

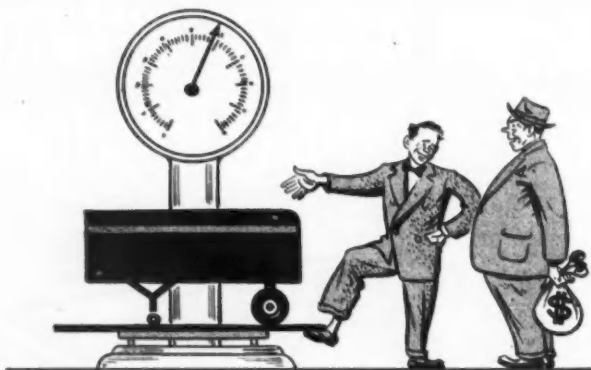
1888... Dependable Batteries for 61 Years... 1949

"Exide" Reg. Trade-mark U. S. Pat. Off.

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • Exide Batteries of Canada, Limited, Toronto

COMMERCIAL CAR JOURNAL, May, 1949

Factors Involved in TRAILER Selection



Floors, superstructure and intended service affect basic design. Fir flooring, light alloy panels, landing gear, wheels can cut weight 2700 lb

WHEN we refer to commercial trailer selection, this includes all types of trailers from the small one behind your car to the heavy machinery low bed trailer. The types we shall cover are the ones that are in between, that is, the commercial flats and vans which transport the bulk of the nation's goods.

The axle, wheels, and drums on these trailers, while not completely standardized, are for the most part interchangeable in assemblies, one make to another, and their maximum loads are limited by law from 16,000 to 22,000 lb.

Brakes in general have S-type cams with trailer followers and 360 deg slack adjusters. They all use block linings approximately $\frac{3}{4}$ -in. thick which are completely used up by the full rotation of the cam without further adjustment.

The power operating these brakes is air or vacuum. The operating valves are faster by 40 per cent than

by JAMES J. BLACK*

Vice President in Charge of Engineering
The Trailmobile Co.

a year ago. This change in speed on both vacuum and air is due primarily to adequate ports in these new valves.

Tandem running gears use the same axles as the single suspension, but in general from the axle upward there is a great variety of designs to simply balance the axle loads and brake loads or absorb them. From a maintenance standpoint, it would be advantageous to have a tandem merely the addition of another suspension.

Many volumes have been written on the savings from independently operating wheels and self steering, but we still have the dual tires on the

*Excerpted from a paper presented at the SAE Transportation meeting in Cleveland.

drive wheels of our trucks operating with a fair degree of efficiency.

Before the war, the swinging landing gear was standard. This has been replaced by the vertical retractable type which consists of two gear driven screws to elevate and lower a wheeled carriage. The main differences in available mechanisms is in the screw nut combination.

Ball bearing screws and nuts are used on another combination with even greater output due to absence of friction. This unit dispenses with the necessity of gear reduction used on the other two mechanisms.

Weight Savings in Floors

FLOORS in trailer vehicles generally are white oak of varying thicknesses. This oak weighs $4\frac{1}{4}$ lb per board foot average. Its thickness is dependent upon service requirements and span. In many cases the floor represents 20 per cent of the vehicle weight. Edge grain fir is being substituted for oak as means of weight reduction. Fir averages three pounds per board foot and offers savings of 25 per cent or more within certain limitations. Alloy aluminum plate floors are finding some favor, but they represent nailing problems.

The floor material, the understructure, and the service to be performed cause the greatest consideration in basic design. A balance for low weight between floor thickness and bolster spacing is wanted, but as the bolsters are brought together and receive less load due to increasing numbers, it is found necessary to protect them against concentrated loads. Whether this is provided by excess strength in the bolsters or means to distribute the load, such as longitudinal rails, is a matter of debate. There is no clear weight advantage to either. The distributed load naturally will offer the least strain to the carrying side frames.

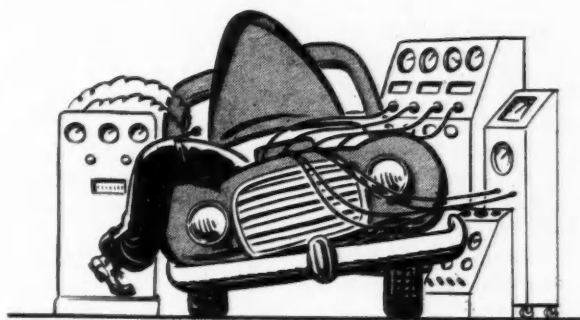
Frames and Skins

THE side frames, or body sides, are of several types: the truss side, corrugated side, and the stressed panel side. In the first type, the top member is the roof rail, the lower the rubrail, the intermediates form the body posts for inside lining, and the horizontals complete the truss.

The thickness of the rubrail and roof rail and their design will be gov-

(TURN TO PAGE 112, PLEASE)

Instrumentation Provides Operating ECONOMY



Modern engine testing equipment used in competent hands guards against fixing the wrong things, or fixing the right things at the wrong time

by M. E. NUTILLA*

Superintendent Motor Vehicles
Cities Service Oil Co.

MODERN engine testing equipment will be here to stay only if it satisfies a definite need. The twin economies of transportation are (1) fuel economy and (2) maintenance economy. They are inter-dependent.

One important consideration is to limit repairs to the defective parts, because if something else is fixed in error, the trouble still remains regardless of how economically the false repair was accomplished.

Another important observation is that economical maintenance requires "know-how." Instruments and equipment make poor substitutes for proper training in fundamentals, or the use of good judgment. Equipment can too often be misused, and the man behind the instrument continues to be the most important factor.

Regarding testing equipment, it is easy to fall into the error of thinking that instruments go hand-in-hand with over-maintenance, whereas just the opposite should be the case. They are most useful as yardsticks to guard against fixing the wrong things or fixing the right things but at the wrong time, especially when major expense is involved.

One of the advantages in knowing the conditions inside of an engine is that special attention can be given to keeping the inexpensive adjustments and repair items in the best of condition to eliminate their unwelcome contribution to engine inefficiency. By so doing, the items of heavy expense, such as ring and rebore jobs, can be stretched out longer before the drop in power has reached a point of complaint.

Unless there is some way to know the condition of the rings, it is difficult to make an intelligent decision regarding necessity for repairs. After knowing the ring condition, some correlation between the test information and potential power is useful. There is some reason to believe that horsepower loss at peak power is not

directly proportional to the drop in compression pressure, but rather that the drop in peak power approximates $\frac{1}{2}$ the drop in compression pressure.

It is possible to set a standard for power loss before overhaul. Assume it is 10 per cent. In that case, if all the items of minor expense are in good repair and if the power loss ratio mentioned above is substantially correct, the compression loss could be approximately 20 per cent before a ring job would be required. If items of minor repair were not detected and put in order, and they were responsible for half of the power loss, then a ring job might be done

*Excerpted from a paper presented at the SAE Transportation meeting in Cleveland.

much earlier than needed. When the correlation of ring condition to power loss is known and the power loss through rings is not serious, then attention should be concentrated on correcting the items of minor expense.

The use of instruments would then be helpful in developing a plan based on observed conditions for handling major repairs.

Lacking a dynamometer, power can be approximated from acceleration tests with a stopwatch. It can be checked against performance when new, or against calculations based on the power output curve of the engine.

One of the most important "instruments" are the other trucks in a fleet, especially those which are identical, because they afford such a ready comparison. It is entirely conceivable that had there been only the cripple without another to compare it with a false impression could easily

(TURN TO NEXT PAGE, PLEASE)

Instrumentation for Operating Economy

Continued from Page 93

have been formed. Without comparisons, training is necessary to make proper decisions. When comparisons show differences, an equal amount of training is required to be able to determine the reasons for the difference. Instruments are necessary tools for doing the work efficiently.

Exhaust Gas Analyzer

THE analyzers of today are a considerable improvement over their predecessors. Designs are now available which are portable so that readings can be taken on the road under loaded conditions as well as at no-load. Desirable features include all three of 6V, 12V or 110V connections for power supply. Some incorporate automatic protection against variation in battery voltage, to insure accuracy under varying battery conditions. Special features include small sampling tube diameter which is desirable so that negligible change is made in back pressure through the exhaust system during test. Suction is provided so the continuous sample will travel to the analyzer without being diluted with outside air. This also helps make low-speed readings more accurate since exhaust pressure alone might be insufficient for the purpose. Dependability of readings is incorporated when periodic checks are made with sample bottles of a known air-fuel ratio. This is in addition to an adjustable zero-setting when pure air is passing through the meter.

There is a relationship between combustion efficiency and air-fuel ratio so they can be used interchangeably, and analyzers can be calibrated accordingly, once the relationship has been established. Still a third calibration can be made in terms of percentage gasoline wasted. The difference be-

tween combustion efficiency and 100 per cent represents percentage gasoline wasted, which is a practical term of basic significance.

Compression Leakage Tester

TESTING for compression leakage is not to be confused with testing for compression pressure. The conventional compression tester is actuated by the compression of the motor when in motion. The leakage tester is supplied with air pressure from an outside source and readings are taken while the motor is stationary. Two general types are in use, one where the pressure is adjusted before air is admitted to the cylinder, and the other where the pressure is adjusted while the air is actually flowing. One make of the latter general type is provided with a further refinement in that air pressure can be adjusted to the diameter of the cylinder being tested, to compensate for the fact that otherwise leakage from a large piston of comparable condition would indicate more leakage because of the greater ring surface than the smaller one when actually the mechanical condition was equal in both cases. Where piston diameters are somewhat uniform the adjustment feature is relatively unimportant. The ultimate desire in the field of determination of the internal condition of a motor would be to be able to see right through the metal into the inside. As that is not possible, the next approach is to interpret conditions based on observations from tests which simulate operating conditions.

When testing is indicated, it can be done either by listening for the hissing sound of air by ear or with the assistance of a stethoscope or equivalent, which not only magnifies the sound but enables testing in places inaccessible

to the ear, or by visual indication through the use of a very sensitive instrument called the Top-dead-center or TDC finder.

Compression Tester

THE compression tester provides a quick check on the condition of the cylinders by registering the maximum pressure developed, usually at cranking speeds. A check valve holds the pressure until released. It is questionable that it is as sensitive as the leakage gage, since a number of observations in my experience have shown equal readings throughout on the compression gage, yet some variation was indicated on the leakage tester.

Carbon deposits will affect the readings. Adjustment must also be made for changes in altitude. Isolating leakage due to poor rings by applying oil to the piston might be misleading unless it is certain that no oil has gotten to the valve seats while the piston was in motion.

Although the vacuum gage is one of the very oldest pieces of test equipment, it continues as one of the most useful. In order to get a good vacuum reading, the three fundamental divisions, ignition, compression and carburetion, of the motor must be in good order. One of the limitations is that several conditions could cause an unsteady reading. In that event, in order to isolate the trouble, compression, carburetion and ignition would need to be tested separately.

Some of the most popular uses for it are: Check engine vacuum; weak valve springs, usually show a flutter at high speed while normal at idle; leaking intake manifold or heat riser, or late valve timing; fuel pump vacuum; choked muffler.

Distributor Tester

DISTRIBUTOR testers are known under a variety of trade names, but the purpose is essentially the same (TURN TO PAGE 116, PLEASE)

Highway Post Office

Newest and largest edition to the U. S. Post Office Dept.'s rapidly expanding fleet of highway post offices is this giant Super Twin truck designed by Twin Coach Co., Kent, Ohio. Measuring 45 ft from bumper-to-bumper it carries 30 per cent more mail than an apartment type rail post office. The body is vertically hinged just behind the center axle and there is coordinated steering between the front and rear axles permitting a turning radius of 35 ft. It is powered by two 180 hp Fageol engines mounted amidships, equipped with automatic transmissions





YOU GET *plenty of low-cost power* in a rugged new Studebaker truck!

An ice company in Illinois—an oil company in Minnesota—

A construction company in New York—a bottling company in Texas—

Thousands of firms, located all over the map, from coast to coast and from border to border—

They're all of one mind about the pulling power, the operating economy, the ruggedness, the reliability, the amazing dollar value of Studebaker's sensational new '49er trucks!

Read for yourself some of this amazing proof of owner-satisfaction. It's all down in black and white in a new booklet, "The Weight of Evidence"—now avail-

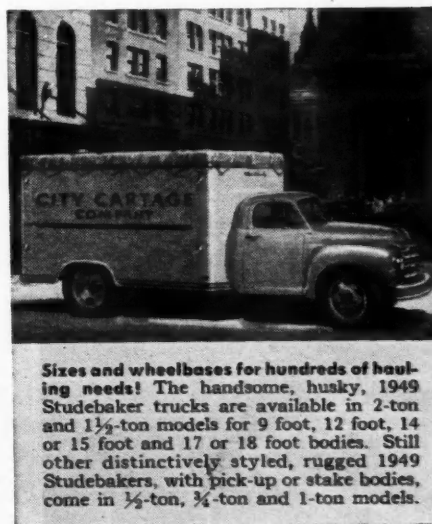
able at all Studebaker showrooms.

A Studebaker buying wave is sweeping the whole United States right now—and today's unprecedented demand for the new 1949 Studebaker trucks is one of the reasons!

Stop in at a Studebaker showroom and see for yourself why the new Studebaker trucks are a nationwide sensation—outstanding in improvements you've never seen in any trucks before!

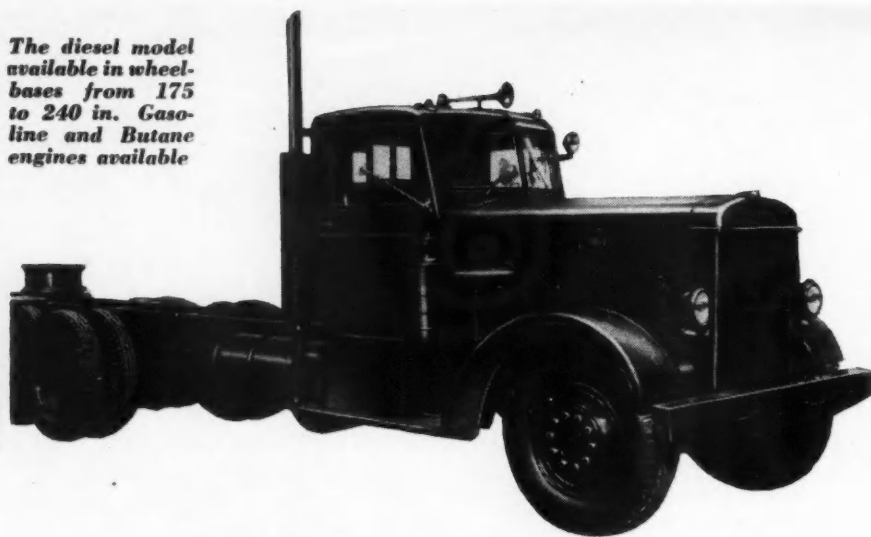
STUDEBAKER TRUCKS

NOTED FOR LOW-COST OPERATION
The Studebaker Corp'n, South Bend 27, Indiana, U.S.A.



Sizes and wheelbases for hundreds of hauling needs! The handsome, husky, 1949 Studebaker trucks are available in 2-ton and 1½-ton models for 9 foot, 12 foot, 14 or 15 foot and 17 or 18 foot bodies. Still other distinctively styled, rugged 1949 Studebakers, with pick-up or stake bodies, come in ¾-ton, ½-ton and 1-ton models.

The diesel model available in wheelbases from 175 to 240 in. Gasoline and Butane engines available

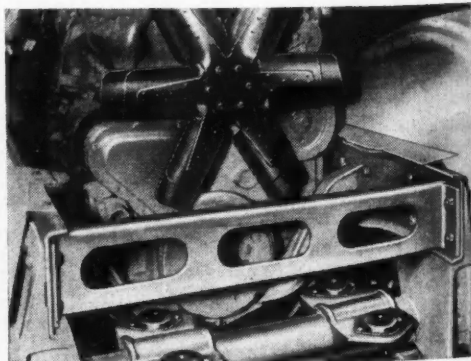
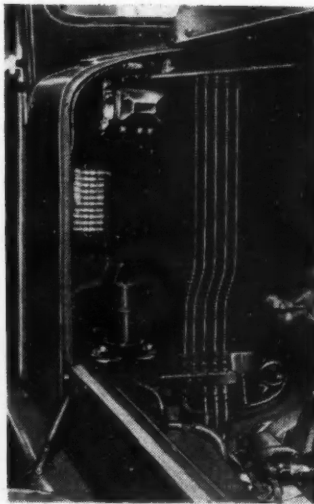
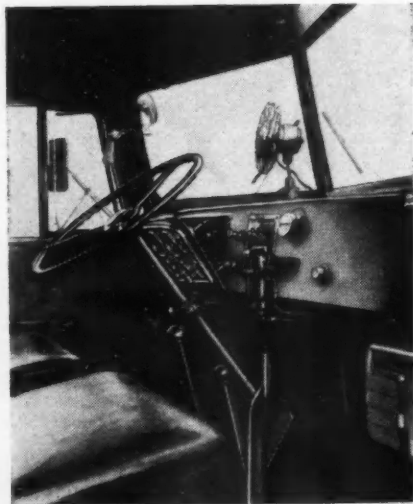


New Peterbilts

Court Driver, Mechanic Favor

Deeper, wider, roomier cabs; improved accessibility for maintenance; longer wheelbases highlight changes

Below left. All-steel cab features improved ventilation, seating and more leg room. Below center. Oil, fuel and air lines run in conduit into a common manifold for accessibility. Below right. Channel cross-member section is bolted to front end for easy engine removal. Radiator is mounted on Lord rubber mountings



PETERBILT Motors Co. of Oakland, Calif., has announced details of its new models, all of which accentuate a wider, deeper, roomier and more comfortable cab. New fenders are larger and with a deeper crown. Wheelbases have been changed to accommodate maximum train lengths. Spring suspensions have been improved and steering made easier.

The new all-steel safety cab is wider and deeper than previous models, allowing more leg room, and adjustment for tall and short drivers. Adjustable bucket or full-cushioned seats are available, upholstered with coil springs, covered with foam rubber and hand-buffed Spanish leather. Quickly removable seat risers and floor boards are other features of accessibility.

The doors of the cabs are wider, and they are equipped with ventilating windows. Cowl ventilators admit fresh air when the truck is in motion, and the full opening rear window allows full circulation of fresh air. The double sealed doors keep out drafts and dust and a larger windshield affords full visibility.

Accessibility for both maintenance and repairs are also stressed in the new designs. The cab has been redesigned for quick removal from the chassis. Three point suspension on Lord rubber mountings permit the cab, hood and radiator shell to move as a unit, relieving the radiator core of strains and stresses, and adding to the riding comfort. Instruments are grouped and mounted on a hinged panel, with non-glare indirect lighting mounted directly in front of the driver.

All electrical wiring is carried in loom conduits, and connections between cab and chassis are through (TURN TO PAGE 136, PLEASE)

Truck Specifications

Showing New Models and Revisions Since Last Issue

The specifications of new truck models tabulated at left and the revisions noted below have been received from truck manufacturers since publication of the Commercial Car Journal Truck Specifica-

tions Table in the April, 1949, issue. Readers are requested to make note of these changes. Publication of the entire Specifications Table will be resumed in the June, 1949, issue.

DATA SUPPLIED BY MANUFACTURERS AND TABULATED BY COMMERCIAL CAR JOURNAL

Federal

Model 15 M was erroneously listed in the April issue as a six-wheeler. Actually it is the smallest truck Federal builds and is available as a 12,000 lb gvwt vehicle with 6.50 x 20 single tires as well as 14,500 lb gvwt with maximum tires shown. Frame side rail dimensions of this model have been corrected as follows: 87 $\frac{1}{2}$ x 27 $\frac{1}{2}$ x $\frac{1}{4}$ in.

FWD

Chassis weights listed include cab weights on all models. Maximum authorized tire size on Model ZU has been increased to 12.00 x 20 and rear axle ratio range on Model YU is 5.7 to 10.8.

Marmon-Herrington

Model LD6P-4 has been deleted.

Peterbilt

Model 280DD has been changed to Model 280.

Reo

Two new four-rear wheel drive six-wheelers have been added. Condensed specifications are as follows:

	Model D216	Model D306
Wheelbase (in.)	167-203	214
Gross Weight	28,000	45,000
Chassis Weight (with cab)	9,170	15,500
Engine	Own GC 310	Con R6513
Displacement	310	513
Horsepower	101 @ 8000	173 @ 2800
Transmission	Cia 205V-VO	Spi 6252A-53
Rear Axle	Tim 55BD1055	Tim SD3010

Full specifications will appear in the June issue.

In addition the following changes are noted:

Maximum authorized tire size for model D-22R-B is 10.00 x 20 and for model D-316 10.00 x 22.

Rear axle ratio range for Model D226R is 6.83 to 7.8.

Brakes on all six-wheel models operate on all six wheels instead of on four as noted in table.

On Model D-226R the symbol indicates make of hand brake has been deleted.

Truckstell

Model F4X40 has been changed to Model F4X38. Gross vehicle weight of this model is 38,000 lb and chassis weight including cab is 10,650 lb (with 9.00 x 20 10-ply tires).

Willys

Prices on all models have been changed as follows:

Model 463 (Sd. Del.)	\$1295
Model 2WD	1295
Model CJ-3A	1195
Model 4WD	1695

All prices include vehicle complete with pick-up body.

The engine in model CJ-3A is Own CJ-3A.

The rear axle in Models 2WD and 4WD is Timken 51540 NX 4.

See April issue, page 141, for specifications of other models

Conference Corner

Continued from Page 30

Individual Analysis Must Be Made to Determine Causes of Squeal

by J. Harold Hunt
Vice President
Engineering
Motor Wheel Corp.

design, so as to allow distortion with one type of brake, yet with another type of brake a very flexible design of drum can be used successfully. One of the factors is the variation in brake linings, and the demand made on same. Some companies require a high coefficient lining; some a low coefficient lining; and in one case the lining may give the required results from a performance standpoint, but have squeal characteristics, and changes made to eliminate squeal might seriously affect the other performance characteristics. In other words, the lining and drum combinations must be tailored to suit the individual requirements and therefore no general recommendations can be made for eliminating brake squeal, except by an individual analysis in each case."

"There is no definite answer to brake squeal. There are so many factors that enter into this problem, that no broad statement can be made in regard to a remedy.

"Brake squeal can be caused by improper drum

Factory Service

Continued from Page 61

McQuay - Norris

Two-Speed Axle Oil Leak

SOME complaints on oil leaks from the carrier in two-speed axles with side mounted vacuum shift chamber have been received. In some cases the leakage is internal, that is, through the vacuum line into the engine. In other cases leakage is external and appears between the carrier and shift chamber sleeve. Common causes of carrier external and internal oil leaks are:

1. Excessive pressure in axle caused by too much oil in axle, or clogged breather.

2. Defective shifter rail oil seal. The most common cause of a shifter rail oil seal failure is a bent vacuum chamber.

3. Insufficient venting of the shift chamber sleeve or lack of an oil return hole in the later type sleeve. The sleeve formerly was vented to atmosphere by a slotted gasket between the flange of the sleeve and the flange of the shift chamber. An oil return hole has been incorporated in the later type sleeve. This oil return hole is drilled at a 40 deg angle, starting at the outer stop in the bottom of the sleeve bore.

Washington Runaround

Continued from Page 10

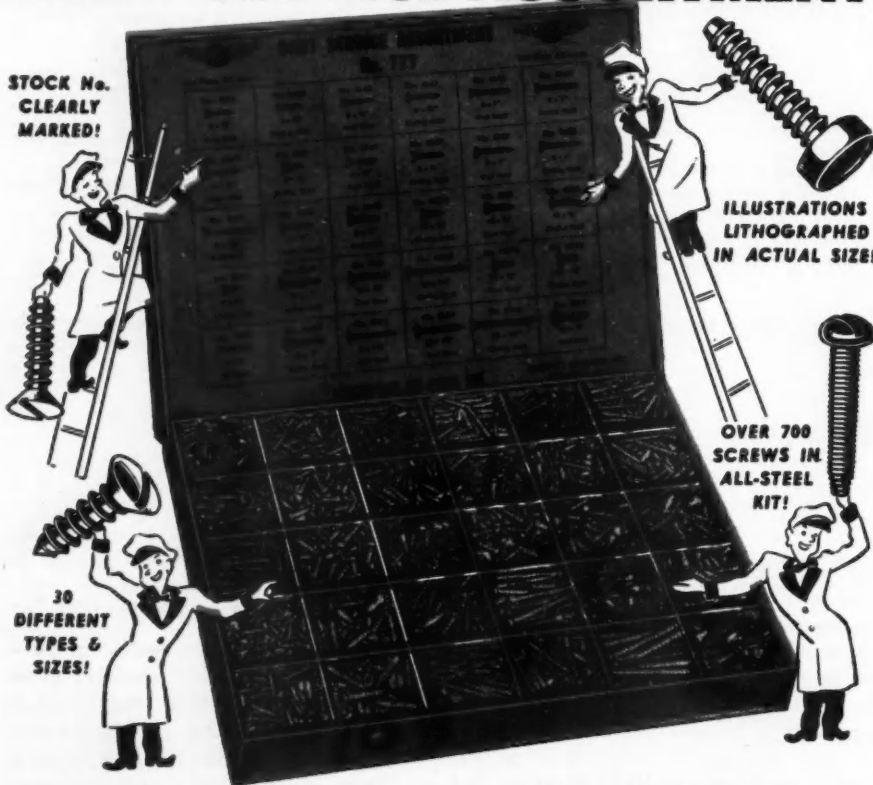
apparent and ordered Ordnance to cut down on these items.

A breakdown of proposed Army vehicle purchases for the 12-month period beginning July 1 is as follows:

ITEM	QUANTITY	UNIT COST	TOTAL
Ambulance, 3/4-ton, 4x2, Metropolitan (without spare parts)	48	\$ 4,000	\$ 192,000
Car, 5-passenger, medium sedan (without spare parts)	36	1,380	49,700
Car, 5-passenger, light sedan (without spare parts)	1,228	1,300	1,596,760
Truck, 1/4-ton, 4x4, (with equipment and concurrent spare parts)	6,320	2,500	15,800,000
Truck, 3/4-ton, 4x4, Improved type (with equipment and concurrent spare parts)	2,663	4,300	11,450,900
Truck, 2 1/2-ton, 6x6, Improved type (with equipment and concurrent spare parts)	6,705	6,300	42,241,500
Truck, 5-ton, 6x6, new type, (with equipment and concurrent spare parts)	589	19,000	11,191,000
Truck, 8-ton, 6x6, (with equipment and concurrent spare parts)	4	150,000	600,000
TOTAL			\$81,280,000

DORMAN

BODY SERVICE ASSORTMENT



THE DORMAN BODY SERVICE ASSORTMENT No. 777 is a complete assortment of sheet metal screws designed to meet the needs of auto body shops, large garages and fleet maintenance repair shops. This kit contains over 700 sheet metal screws of 30 different types and sizes. The container is made of heavy steel with each size and type of screw in individual sections. A diagram showing the position, stock number, exact dimensions and type of head is in clear view when the assortment is open. All illustrations on this diagram are reproduced in life size so anyone can quickly determine the exact size and number of any popular sheet metal screw. For your convenience, refills for this Assortment are now available in handy Dorman Ready-Paks.



DORMAN PRODUCTS Inc.
CINCINNATI, OHIO

Post Office Notes

Second Assistant Postmaster General Paul Aiken recently told a House Committee that mail is being hauled by truck over the Alcan Highway to Alaska "at a cheaper price than we can haul it by steamship, and we are handling it more efficiently." He later pointed out, however, that maintenance costs of the Post Office Department's highway post-office vehicles have risen substantially. Original estimates for 1949 were approximately 15.68 cents per mile and present costs are about 24.7 per cents per mile. Higher gasoline taxes and increased salaries are two of the reasons.

Air Forces Cuts Accidents

The Air Force saved nearly a million dollars during 1948 by reducing motor vehicle fatalities and injuries more than 50 per cent over 1947. They also established a safety record of only 3.75 accidents per 100,000 miles driven.

In 1948, motor vehicles operated a total of 105,700,000 miles with 3966 accidents resulting in 10 fatalities and 234 injuries. This compared with 103,900,000 miles of operation and 4624 accidents, 23 fatalities and 510 injuries in 1947.

European Transport Good

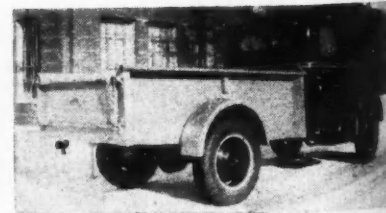
Western Europe's transportation system has recovered to such an extent that dollar requirements for transportation equipment in the fiscal year 1949-50 will be less than \$140,000,000 authorized for the Marshall Plan nations in the first year of the European Recovery Program, although more transportation equipment will be shipped than last year, because the bulk of 1948 contracts have not been delivered. It is expected that in the coming fiscal year alone, more than \$40,000,000 will be earmarked for this program.

As a whole, ECA regards the postwar recovery of Western Europe's transportation system as exceptionally rapid. The Netherlands, for example, has more trucks today than in 1938—about 34,000 as compared to the prewar figure of 28,000.

END

(Please resume your reading on P. 15)

Out-Sized Pick-Up



Kewanee Mfg. Co., Kewanee, Ill., is offering this out-sized pick-up body in lengths of 78, 96 or 108 in. It is said to be an unusually rugged job, fabricated of 12-gage steel with 10-gage bottom and tail gate. When used with a vertical mechanical or hydraulic hoist, it becomes economical dumper



...FRANK R. CAMPBELL and CHARLES L. CAMPBELL as sales development managers of the Southeastern and Eastern divisions, respectively, for The B. F. Goodrich Co. CLARE E. SEARS becomes Washington district manager and L. O. VEITH takes over the Philadelphia district.

...HARRY C. DUMBILE as director of General Motors Corp.'s new devices section, succeeding JOHN H. HUNT retired.



...GEORGE M. CATCHPOLE (left) and DAVID J. LONG as assistant fleet sales managers for the Ford Division, Ford Motor Co., heading new fleet sales departments in Chicago and New York respectively.



...WALTER M. TAYLOR as sales manager of the Autocar Co. succeeding E. F. COOGAN, recently named the president.



...Col. EDWARD L. STORY as general manager, Charlotte Branch Brown Equipment & Mfg. Co. succeeding E. S. HORTON who becomes chief engineer of Brown.



...DONALD K. RENNIE as superintendent, Winchester plant, American Brake Block Div., American Brake Shoe Co.

...S. FLOYD STEWART as president and CHARLES S. COOK as vice-president, The Leece-Neville Co. HAROLD J. ZUSKE now heads original equipment sales and P. K. BREMSER heads the new service sales department.

...J. R. WHITE and CARL M. HEATH as newly appointed sales engineer and sales representative respectively of the Special Equipment Division, Timkin Detroit Axle Co.



...R. F. MAW (left) and J. W. FAIRBANKS as new Central and Western Division managers, respectively, of Merchandising Div., The Electric Auto-Lite Co.

WHAT COULD BE SIMPLER OR EASIER TO APPLY THAN ONE-PIECE *Hansen* EXTENSION LOCKS

HANSEN Hardware is noted for its extremely simple design. The locks shown are made in one piece, including inside handle (except No. 63).

No loose parts. Self-contained. Compact, strong, easy to apply, these locks are built to withstand hard usage. Die-formed steel bushing. Wide, hardened striker bolts.

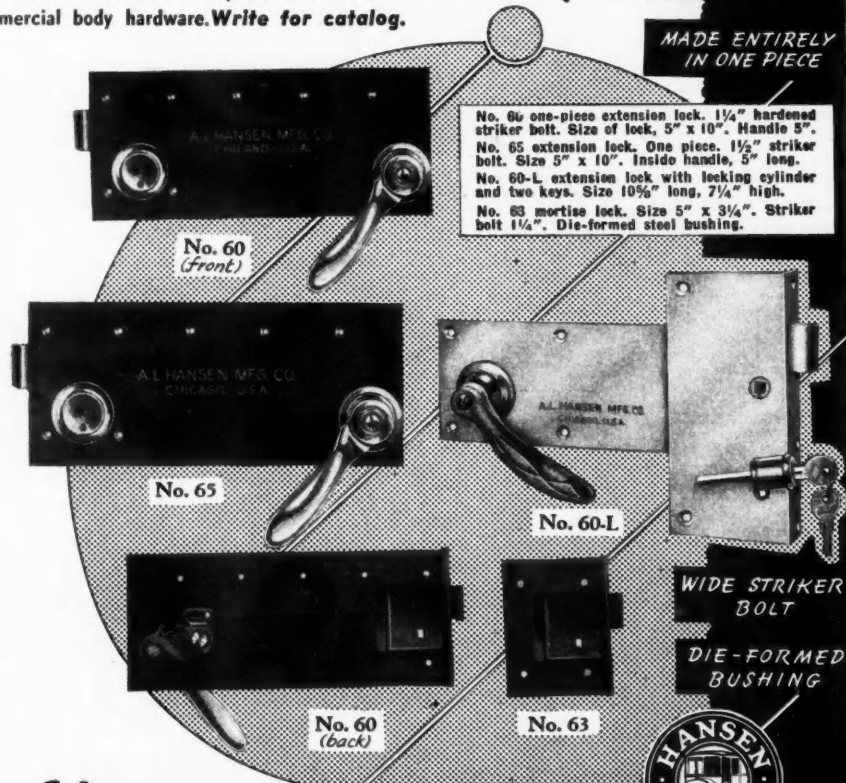
Hansen makes a complete line of commercial body hardware. Write for catalog.



NO LOOSE PARTS
TO ASSEMBLE

NO COMPLICATED
SPRINGS

**MADE ENTIRELY
IN ONE PIECE**



No. 60 one-piece extension lock. 1 1/4" hardened striker bolt. Size of lock, 5" x 10". Handle 5".
No. 65 extension lock. One piece, 1 1/2" striker bolt. Size 5" x 10". Inside handle, 5" long.
No. 60-L extension lock with locking cylinder and two keys. Size 10 1/2" long, 7 1/4" high.
No. 63 mortise lock. Size 5" x 3 1/4". Striker bolt 1 1/4". Die-formed steel bushing.

**WIDE STRIKER
BOLT**

**DIE-FORMED
BUSHING**

**A. L.
HANSEN
MFG. CO.**

5047 RAVENSWOOD AVE.

CHICAGO 40, ILL.

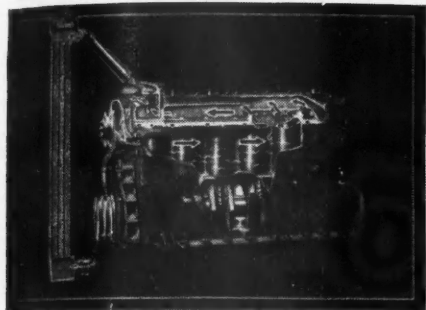


New Truck Registrations by Makes by States*

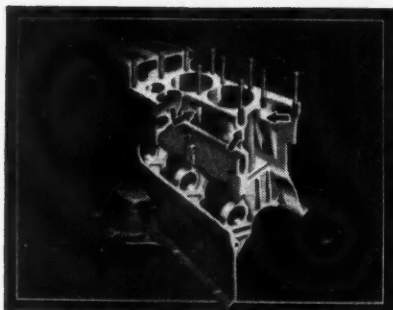
STATE	Auto-car	Brack-way	Chevrolet	Diamond T	Divco	Dodge	Federal	Ford	FWD	GMC	International	Ken-worth	Mack	Pontiac	Reo	Sterling	Stude-baker	White	Willys	All Others	Total
Alabama	Feb.		646	2	3	151	3	205		125	114		6		3		88	1	59	4	1,418
	2 Mos.		1326	5	3	310	4	428		219	233		15		12		198	11	135	13	2,912
Arizona	Feb.		77		4	45		53		18	23	2	1		1		31	1	11	2	289
	2 Mos.		213	1	4	84	2	120		43	48	2	1		4	2	67	3	32	15	541
Arkansas	Feb.		705	10		161		378		122	105		1		14		113	4	121	1	1,733
	2 Mos.		1510	17		380		803		286	240		3		37		275	11	300	6	3,568
California	Feb.																				
	2 Mos.																				
Colorado	Feb.		333	10	2	122		143		72	80						49	1	66	2	608
	2 Mos.		565	15	3	235		280		146	164				2		106	7	138	4	1,068
Connecticut	Feb.	3	99	4	6	48	2	44		51	44		3		3		20	1	7	5	1,068
	2 Mos.	7	266	16	9	103	2	106	1	83	110		16		7		58	1	40	8	1,779
Delaware	Feb.		79	2				22		13	22						5	1	4	1	179
	2 Mos.		160	3	1	64		79		36	49						18	8	13	2	404
Dist. of Columbia	Feb.		56		2	13	3	37		21	10				5		3	37	9		136
	2 Mos.		112	4	4	85	3	98		35	42		4		5		9	47	12	4	484
Florida	Feb.	10	443	16	3	111	1	186		80	123		7		11		67	4	69	8	1,129
	2 Mos.		829	31	6	229	3	417		162	277		27		16		143	14	144	16	2,315
Georgia	Feb.	1	1048	23		341		692		194	292		31	2	17		174	18	168	5	3,006
	2 Mos.	2	2007	35		697	3	1300		372	589		46	2	34		363	37	324	13	5,886
Idaho	Feb.		130	3		50		77		43	59	2	2		7		49		68	3	486
	2 Mos.		238	10		88		135		77	94	3	2		10		84	1	109	13	867
Illinois	Feb.	12	1526	55	26	569	12	705	5	319	717		25		36		279	107	181	25	4,886
	2 Mos.	21	2512	116	58	958	21	1228	7	527	1199		41		65	2	468	186	311	40	7,706
Indiana	Feb.	1	500	6	9	154	2	259		126	234	1	5		9		146	32	78	7	1,871
	2 Mos.	1	931	14	31	297	3	550		251	490	1	12		22		301	54	138	11	3,189
Iowa	Feb.		730	9	3	235	1	307		112	227		4	1	8		88	3	84	5	1,817
	2 Mos.		1280	29	11	442	1	596		196	461		15	2	16		203	14	166	13	3,447
Kansas	Feb.		408	8	6	113	1	145		47	116				8		71	3	41	4	872
	2 Mos.		750	13	6	241	5	339		118	262				11		138	5	80	6	1,874
Kentucky	Feb.		454	10	5	130	1	199		92	112		2		2		77	8	85	5	1,285
	2 Mos.	1	880	21	8	260	2	429	1	174	246		6		11		149	16	259	8	2,471
Louisiana	Feb.																				
	2 Mos.																				
Maine	Feb.		182	2	3	54	2	102		53	69		6		14	1	42	8	36	1	569
	2 Mos.	4	415	3	4	122	3	239		113	180		10		25		77	18	75	6	1,272
Maryland	Feb.	9	308		5	101	3	114		32	69		6		2		22	6	24	3	786
	2 Mos.	13	546	7	8	224	6	247		76	147		9		4		68	10	54	5	1,438
Massachusetts	Feb.	10	258	8	9	132		186		66	90		8		4		52	9	26	2	884
	2 Mos.	27	524	10	20	247	3	376	4	107	187		43		18		95	29	67	7	1,784
Michigan	Feb.	4	1083	10	28	282	9	484		194	180		15		12		112	13	71	14	2,482
	2 Mos.	10	2027	24	44	568	18	876		345	388		28		20		235	32	170	30	4,632
Minnesota	Feb.	8	577	11	3	169	4	236		107	514		5	1	1		135	7	47	4	1,514
	2 Mos.	24	973	15	13	340	7	531	3	251	514		16	3	2		255	13	102	12	3,671
Mississippi	Feb.		680	5		152		228		122	96		1		8		79	3	87	1	1,488
	2 Mos.		1179	13		297		427		231	223		1		2		140	6	103	8	2,708
Missouri	Feb.	2	921	9	3	251		289		171	188		4		7		188	7	103	8	2,708
	2 Mos.	3	1640	19	6	520		638		332	405		8		21		195	24	212	19	4,090
Montana	Feb.		178	8	1	74		98	3	69	99				7		49	1	86		686
	2 Mos.		374	20	1	157	5	227	4	140	215	1	1		15		102	2	210	1	1,475
Nebraska	Feb.		495	25		195	1	200		89	165	2	2		3		94	12	148	4	1,475
	2 Mos.		827	60		334	4	362	1	168	369	5	4		6		180	21	236	20	2,807
Nevada	Feb.		24	2		10		24		16	9						7		10		102
	2 Mos.		67	2		25		39		26	20						30		20		226
New Hampshire	Feb.		47		1	9		29		7	13		2		1		7		14	2	123
	2 Mos.		97		1	24	1	55		15	30		3		1		7		14	2	282
New Jersey	Feb.	6	524	5	20	189	2	259		158	184		23		7		63	14	67	12	1,546
	2 Mos.	26	947	17	35	405	13	487	2	300	342		64		20		132	62	180	25	3,168
New Mexico	Feb.		235	3		81		94		58	32		2				47	4	22	15	683
	2 Mos.		322	4		109		137		76	45		2				68	4	31	18	814
New York	Feb.																				
	2 Mos.																				
North Carolina	Feb.	1	669	4	1	167		316		79	180		29		8	1	74	18	92	12	1,681
	2 Mos.	5	1502	11	1	370	3	720		165	400		42		15		186	38	205	28	3,080
North Dakota	Feb.		125	7		45	4	89		27	103		1				35		41	1	479
	2 Mos.		274	20	1	106	5	243		77	250		1		1		80	1	73	3	1,135
Ohio	Feb.	7	1059	21	23	358	12	486		192	273		8		19		138	57	126	14	2,782
	2 Mos.	18	2056	43	51	796	23	1019		312	623		33		18		309	129	211	38	5,672
Oklahoma	Feb.		672	2		188		256		89	191		4		6		84	6	110	3	1,611
	2 Mos.		959	5	2	308	1	456		142	319		5		8		148	18	164	7	2,542
Oregon	Feb.	2	269	4	5	74		135	3	73	85	2	4		5		50	8	57	3	779
	2 Mos.	5	508	7	7	200	2	311	3	145	152	4	8		7		118	11	142	8	1,530
Pennsylvania	Feb.	11	1219	27	9	538	7	579		248	394		55		18	2	214	66	166	17	3,375
	2 Mos.	30	1946	54	13	1007	14	1116		477	729		107		39	2	446	114	286	43	6,490
Rhode Island	Feb.	3	72	5		29		47		17	26		1		2		8	1	17	3	231
	2 Mos.	6	143	5	2	61		88		24	60		2		2		21	6	26	3	440
South Carolina	Feb.		445	2	2	74		148		66	65		6		4		33	9	41	3	680
	2 Mos.	1	861	6	2	180		319		118	157		29		5		85	17	88	3	1,071
South Dakota	Feb.		146	10		59		83	4	28	101		1		1		31		49	4	517
	2 Mos.		265	30	1	111		149	7	61	224		1		1		72		88	9	1,019
Tennessee	Feb.		421	4		87	3	132		54	55		3		17		48	7	57	4	882
	2 Mos.		1224	10		317	4	416		177	221		4		28		160	17	113	9	2,780
Texas	Feb.	7	1710	9	5	647		765		285	353	1	13		14		266	43	227	55	4,460
	2 Mos.	14	3382	23	15	1197	6	1621		652	813	3	27		22		554	80	494	119	8,982
Utah	Feb.		135	9	2	52	3	72		35	55	6	5		8	1	35	4	23	4	446
	2 Mos.		222	10	2	81	4	147	2	71	88	6	6		5		61	6	43	7	705
Vermont	Feb.		49			18	1	26		16	14										

HERE IS WHY WHITES SAVE ON TRUCK MAINTENANCE COST

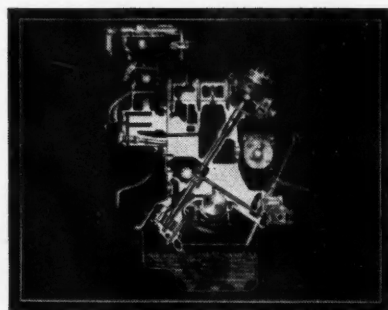
QUALITY FEATURES make the big difference in Truck Earning Power!



HIGH-EFFICIENCY COOLING—Closed pressure cooling system and expansion tank in radiator, automatically provide proper quantity of circulating coolant under all operating conditions for healthy engine operation.



CYLINDER DISTORTION CONTROL—Full-length metal pillars in block. Secure head without distortion. Eliminates warpage ... increases life ... saves fuel.



CRANKCASE VENTILATION—Scientific system removes harmful vapors. Lessens corrosion ... improves lubrication.



HIGH MILEAGE DEPENDABILITY...at low cost per mile...makes White Super Power the best investment in motor trucks. Maintenance costs less because of quality features in material and design that are found in no other trucks. On the operating records of thousands of truck owners everywhere... in all lines of business... White Super Power,

correctly applied to the work to be done, always *earns more, costs less.*

Compare price and earning power. When this comparison is made, the advantages of investing in Super Power become obvious. For complete information, in terms of your own business, see your local White Representative.



THE WHITE MOTOR COMPANY
Cleveland 1, Ohio, U. S. A.
THE WHITE MOTOR COMPANY OF CANADA LIMITED
Factory at Montreal

FOR MORE THAN 45 YEARS THE GREATEST NAME IN TRUCKS

5-Star Final

Continued from Page 83

uncomfortable job to take him "off." The time to fire the poor driver is before he goes to work.

No-Accident Bonus

AFTER a driver has been with us for one year, he is paid a bonus of \$5 for each "no-accident" month (National Safety Council's definitions of no-accident, which is NO AC-

In 1946 we had 18 accidents. Our 28 units averaged 52,207 miles per month, or a total yearly mileage of 626,484 miles. The year before we had 25 accidents, chargeable and non-chargeable.

In 1947, operating the same 28 units, an average of 56,069 miles, and marking up a total fleet mileage of 672,828. We did this with a total of six accidents which resulted in insurance company claims, and six accidents which were claim free.

Claim payment for the six accidents ran as follows: \$53.50, \$47.10, \$75.00, \$43.00, \$26.00, \$3.00. The total was \$247.60.

For the 324 accident free months (12 accident months deducted) we paid our drivers a total safety bonus of \$1520. Twenty months were driven by drivers who did not have in their one year minimum requirement for bonus payments.

On the face of it, this seems like a fairly large bonus to pay out each 12 months. However our shop labor and parts bill on an accident repair has run over \$750 a number of times.

Accident repair cost has been cut in half since we put in the \$5 monthly bonus. Getting the bonus is more than the money with the drivers.

Bonus payments are posted each month. After each driver's name who does not receive a bonus, this is written in red:

"NO BONUS"

Regardless of whether the accident is chargeable or non-chargeable, a "No-Bonus" notation on the list is a disgrace and all drivers so consider it.

Daily PM Check

EVERY UNIT of our fleet is in the garage at least once during each 24 hours. This is a drive-in shop and garage on the second floor of the new Journal building, approached by ramp. After the unit is gassed it is run onto a hoist for the daily inspection.

First of all the mechanic takes care of any "cries" listed by the driver who is required to fill out an informal report at the end of each day's run. Then he checks brakes, lights, tire inflation and condition, horn, wipers and listens to the motor. Finally he checks equipment which includes, on every truck, a fire extinguisher, first aid kit, chains (in winter) and tow line. There is no form used for this daily check as the practice has become ritual with all mechanics. It serves in lieu of both 500 and 1000 mile checks previously performed and we have found it very good accident insurance.

Safety Bulletin

ONCE each month we issue a safety bulletin which lists and (TURN TO PAGE 106, PLEASE)

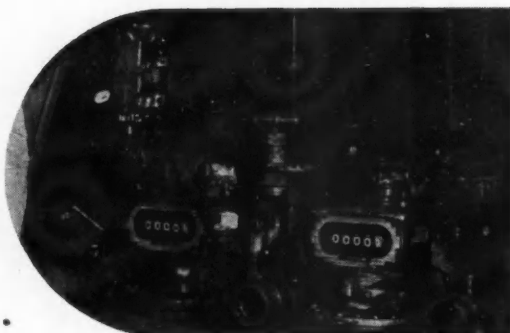


STANDARD OF INDIANA

Uses



*Safety
Valves*



Standard Oil Company of Indiana is one of the major marketers of petroleum products that equip certain of their truck tanks with S. & J. Internal Hydraulic Safety Valves, to give maximum protection to the public, their drivers, equipment and product while on public highways. S. & J. Hydraulic Internal Safety Valves are located inside each truck tank compartment and are normally in a closed position. In the event of an accident, even one which tears the steel discharge lines from the tank, these Internal Safety Valves preclude spillage of gasoline. Should a carelessly tossed match or cigarette cause a fire while the tank truck is being unloaded, a fusible plug melts and releases the hydraulic pressure, and the safety valves close automatically and stop the flow of fuel without the driver having to expose himself to any hazard. Yes, that's the type of protection provided by petroleum marketers who make SAFETY an important aspect of their operations.

SHAND & JURS CO.

BERKELEY, CALIFORNIA

NEW YORK

CHICAGO

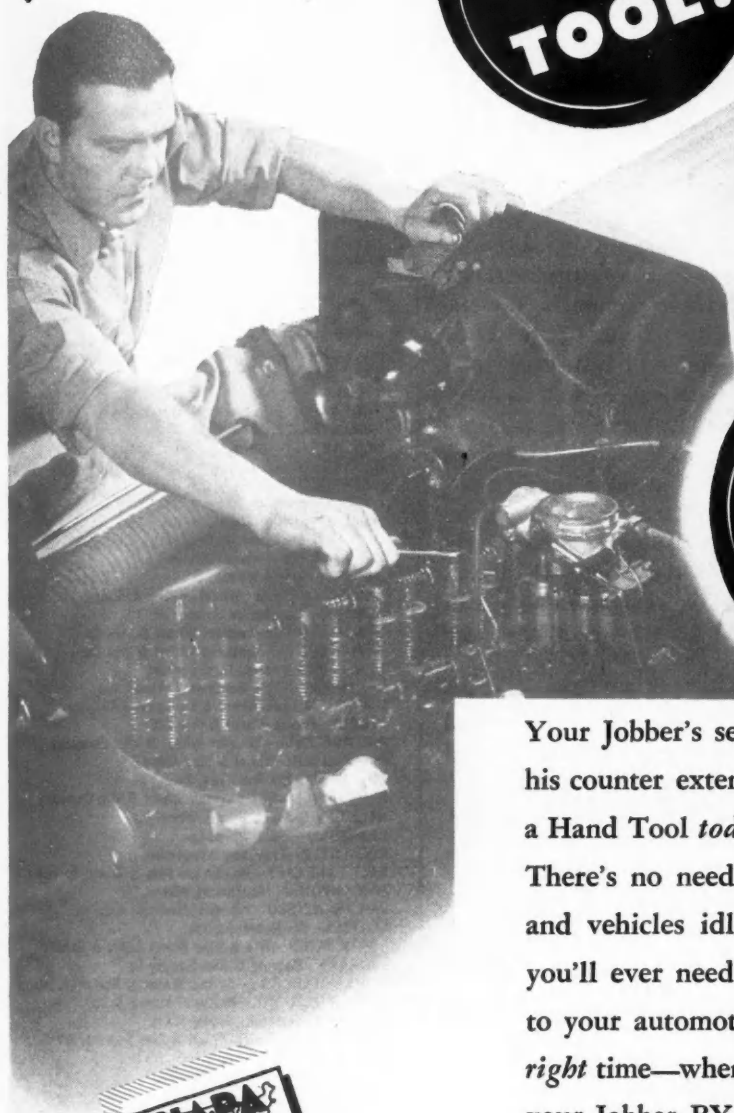
HOUSTON

LOS ANGELES

SEATTLE

SHAND & JURS

*Your phone brings your
jobber's counter
right to
your shop*



**NEED
A
TOOL?**

**PHONE
YOUR
JOBBER**

Your Jobber's service is as quick and convenient as if his counter extended into your shop! When you need a Hand Tool *today*—call him, and you'll get it—*today*! There's no need to keep your important jobs waiting and vehicles idle. Any and every New Britain Tool you'll ever need is no further away than a phone call to your automotive Jobber. For the *right* Tool at the *right* time—when you need it—order New Britain from your Jobber BY PHONE! The New Britain Machine Co., New Britain, Conn.



New Britain

GREATER STRENGTH • BETTER FIT HAND TOOLS

THIS FINE TEAM OF ENGLISH DRILLS meets the greatest range of needs in the industrial field!

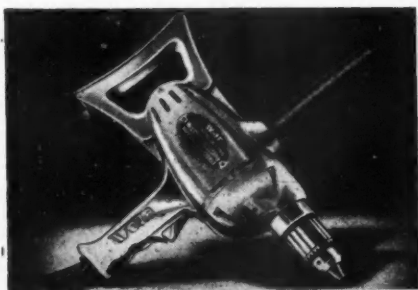
THEIR ABILITY IS PROVED IN 50
WORLD MARKETS AND IS NOW
WINNING RECOGNITION IN
AMERICAN INDUSTRY.



Now available
for Immediate
Delivery EG2C

THIS 1/4" LIGHTWEIGHT ALL BALL BEARING PRODUCTION DRILL IS AMAZINGLY VERSATILE AND DURABLE!

This is a popular drill with aircraft manufacturers, body workers, shop-fitters and maintenance men. The low weight, short overall length and offset spindle make this machine particularly suitable for drilling in confined spaces and prevent fatigue in the operator. The ratio of speed to power makes possible a wide variety of operations and uses.



SD4C
Available in N.Y.C. for
Immediate delivery.

THIS GENERAL DUTY 1/2" BALL BEARING DRILL

being lightweight, is especially adaptable to many production jobs which require continuous operation in close quarters. Spindle speed on full load 400 R.P.M. with 3/4" per minute penetration performance in steel.

S. WOLF & COMPANY LIMITED
LONDON

Price and Distribution Particulars on request. Warehouse Stocks and Service Depot—New York City. Address inquiries to: U. S. Factory Representative, Fred L. Stuart, Room 808—110 East 42nd Street, New York 17, N. Y. LE 2-6176.

5-Star Final

Continued from Page 104

describes all accidents, giving the driver's name and the accident location. If it is a major accident, a picture is taken and used for the bulletin.

These bulletins are mailed to the home address of the drivers, as well as being posted at the time clock, the driver's room, and on a shop bulletin board.

Yearly Banquet

EACH year we have a safety banquet. A good deal is made of this yearly event. Drivers and their guests are invited. Drivers are seated at the banquet table, with honor guests, according to their safety standing. These banquets are attended by city officials, state traffic officers, judges, and insurance company representatives, as well as Journal officials.

Safety awards are given to drivers with top records at these yearly meetings. Their pictures are run in the paper. We try to make these yearly banquets and the honors bestowed the real McCoy — something which the drivers will remember the year through.

In 1935 and 1936 we won the National Safety Council award trophy. We won it again in '38 and '39. Then came the war. Drivers left to join the service and there was a general letdown on the safety campaign. But we are back in there now and we are after the 1948-1949 award. We are going to beat our 1947 record.

END

(Please resume your reading on P. 84)



"Here is yours . . . Mac . . . Phil . . .
Henry . . . Tom.

All Budd Wheel distributors can provide the same kind of service illustrated on the opposite page

AKRON—Motor Rim Manufacturers Co.
ALBANY—Wheels, Incorporated
ALBUQUERQUE—Wheels & Brakes, Inc.
ATLANTA—Harris Automotive Service, Inc.
BALTIMORE—R. W. Norris & Sons, Inc.
BIRMINGHAM—Cruse-Crawford Wheel & Rim Co.
BOSTON—New England Wheel & Rim Co.
BUFFALO—Frey, the Wheelman, Inc.
CHARLOTTE—Carolina Rim & Wheel Co.
CHICAGO—Stone Wheel, Inc.
CINCINNATI—Rim & Wheel Service, Inc.
CLEVELAND—Motor Rim Manufacturers Co.
COLUMBUS—Hayes Wheel & Spring Service
DALLAS—Southwest Wheel, Inc.
DAVENPORT—Stone Wheel, Inc.
DAYTON—Rim & Wheel Service, Inc.
DENVER—Quinn & McGill Motor Supply Co.
DES MOINES—Des Moines Wheel & Rim Co.
DETROIT—H. & H. Wheel Service, Inc.
FARGO—Wheel Service Company
GRAND RAPIDS—Rim & Wheel Service Co.
HARRISBURG—Standard Wheel & Rim Co.
HARTFORD—Connecticut Wheel & Rim Co.
HOUSTON—Southwest Wheel, Inc.
INDIANAPOLIS—Indiana Wheel & Rim Co.
JACKSONVILLE—Southeast Wheel & Rim Co.
KANSAS CITY—Borbein, Young & Co.
KNOXVILLE—Harris Automotive Service, Inc.
LOS ANGELES—Wheel Industries, Inc.
LOUISVILLE—Auto Wheel & Rim Service
MEMPHIS—Beller Wheel, Brake & Supply Co.
MILWAUKEE—Stone Manufacturing Co.
MINNEAPOLIS—Wheel Service Co.
MOLINE—Mutual Wheel Co.
NASHVILLE—Beller Wheel, Brake & Supply Co.
NEWARK—Automotive Safety Inc.
NEW HAVEN—Connecticut Wheel & Rim Co.
NEW ORLEANS—Southern Wheel & Rim Co.
NEW YORK—Wheels, Incorporated
OKLAHOMA CITY—Southwest Wheel, Inc.
OMAHA—Morgan Wheel & Equipment Co., Inc.
PEORIA—Peoria Wheel & Rim Co.
PHILADELPHIA—Thomas Wheel & Rim Company
PITTSBURGH—Wheel & Rim Sales Co.
PORTLAND—Six Robbles, Inc.
PROVIDENCE—New England Wheel & Rim Company
RALEIGH—Carolina Rim & Wheel Co.
RICHMOND—Dixie Wheel Co.
ROCHESTER—Frey, the Wheelman, Inc.
SALT LAKE CITY—Henderson Rim & Wheel Service
SAN ANTONIO—Southwest Wheel, Inc.
SAN FRANCISCO—Wheel Industries, Inc.
SEATTLE—Six Robbles, Inc.
SOUTH BEND—Wire & Disc Wheel Sales & Service
SPOKANE—Bearing & Rim Supply Co.
SPRINGFIELD, ILL.—Illinois Wheel & Brake Co.
SPRINGFIELD, MO.—Borbein, Young & Co.
ST. LOUIS—Borbein, Young & Co.
SYRACUSE—Colbourn Wheel & Rim Service, Inc.
TACOMA—Six Robbles, Inc.
TOLEDO—Wheel & Rim Sales Co.
WICHITA—Borbein, Young & Co.

EXPORT

CLEVELAND—C. O. Brandes, Inc.

CANADA

CALGARY—Fisk Tire Service Ltd.
EDMONTON—Alberta Wheel Distributors, Ltd.
MONTREAL—General Auto Equipment Ltd.
TORONTO—Wheel & Rim Co. of Canada, Ltd.
VANCOUVER—Wheels & Equipment, Ltd.
WINNIPEG—Ft. Garry Tire Service Ltd.



END



OF A ROAD SERVICE CREW

● "About a year ago," writes Tom Propst of the Southern Wheel and Rim Co., Budd Wheel distributors in New Orleans, "I had occasion to talk with Mr. E. A. Wax, whose fleet of 20 lumber-haulers operates between the sawmills around Woodville, Miss., and the New Orleans shipyards. He complained of very poor tire mileage and excessive lost road time.

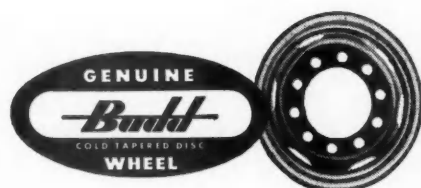
"Upon examination of the conditions, it became apparent that the rough backwoods roads were throwing wheels out of line. Under the average load of 15 tons of logs, wheels were breaking, tires were wearing unevenly, blowouts were frequent . . . the road service crew was constantly on the go chasing lost time and money.

"At my suggestion, Mr. Wax began changing to Budd Wheels—20 x 7.0 wide

base rims. Results: The Budd Wheels stood up under the heavy loads, rode the rugged going and remained true . . . tires wore evenly, blowouts became almost unheard of, mileage increased 35% . . . lost time was reduced to an absolute minimum! Now that the conversion is almost complete, the Wax Lumber Company's road service crew is practically out of a job."

There is a complete list of Budd Wheel distributors on the opposite page. They're all experts on wheelology. Call the one near you and find out how Budd Wheels—the only *complete* line with advanced rims—can save you money. No obligation whatsoever.

The Budd Company, Detroit 14.



*Look for this label (in red, blue and gold)
on the rim of all genuine Budd Wheels*

On the Record

Continued from Page 85

tant. It lists specifications, makes, sizes, models, and types for the specific unit. With this we can answer a road call, turn to this column and know at a glance just what parts to take to the unit reporting trouble.

The back sheet of this truck file form is left for remarks. Here the shop foreman or road superintendent

lists special requirements for the unit, future suggested needs, or "specials" for the next check.

As each complete unit trip runs around 2000 miles, the front page of this file is used for a trip service record, or a 2000-mile check.

Inside the file for each unit are three other forms in duplicate. These are the 10,000, 60,000 and the 120,000-mile service report forms, the latter accounting for a complete overhaul and rebuilding job.

As soon as work is completed on any of these inspections, the proper form is removed from the file, the original mailed to the Denver office, and the copy returned to the unit's file, with all data posted. The 10,000-mile form carries 20 listings. The 60,000-mile form carries 21, and the major overhaul-rebuilding form carries 19. Each of these forms has a lined space at the bottom for special mention. Items on the form which have a circle around them require notations at the bottom of the form.

The complete records for the 14 large units serviced at our Los Angeles terminal are kept in one-half the space of a standard desk drawer. We know that for every record we have, there is a similar record at the home office. In sending out special instructions, all that is required is to give the unit number. By opening the one folder we have the whole history of the unit from the time it was first roaded.

The biggest payoff comes from the fact that this complete record can be kept at the terminal in not over 30 minutes a day.

END

(Please resume your reading on P. 86)



MORE RUGGED...it's made of malleable iron and top grade steel

MORE COMPACT...it takes only 29" of floor space, and the handle folds back out of the way.

MORE DEPENDABLE...for years to come... thanks to precision engineering.

MORE CONVENIENT...it has 3 lifting positions, with easy operation for *all* jobs... and finger-tip release.

MORE VALUE...compare the Model K against other jacks... then compare prices... see for yourself!

FOUR MORE GREAT SCOTT-ATWATER HYDRAULIC JACKS!

A safer, easier-to-use bumper jack (Model 136, 1½ tons)... and three sturdy, powerful axle jacks (Model 549, 5 tons; Model 349, 3 tons; Model 7AJ, 1½ tons)

GET ACQUAINTED with the full line of Scott-Atwater Hydraulic Jacks. Write to Dept. 25

Scott-Atwater MANUFACTURING CO., INC.

MINNEAPOLIS 13, MINN.

MAKERS OF OUTBOARD MOTORS • HYDRAULIC AXLE JACKS • BUMPER JACKS • SERVICE JACKS



Quiz Answers

See Page 34

1. Delaware.
2. Section 8 which provides that Congress shall have the power to regulate commerce with foreign nations and among the several states, etc.
3. An unabridged dictionary will give you between 60 and 70 items which could be carried by motor vehicles. Among them: Kangaroos, Keys, Kainite, Kazoos, Kidney Beans, Knives, Kelp, Kilts, Knobs, Ketchup, Kits, Kodaks.
4. Using the accepted average of 1.8 passengers per private car the above bus can carry the occupants of 64 automobiles.
5. The characteristic ribs on brake drums are designed to stiffen the unit and hold its shape against the shoe pressures.
6. Over 32 different gaskets are used on the average commercial vehicle.
7. More than 14 different oil seals are required for the heavy duty carrier.
8. This method bonds or cements the lining to the shoes without the use of rivets, providing better life, uniform service and eliminating scoring of drums.
9. Shot-peening improves the life of the metal by cold working the surface and raising the physical properties where the stress is highest.
10. In filters. The ceramic type filter now in use thoroughly filters liquid or air, stops particles as small as 1/25,000 of an inch and still allows unrestricted flow.

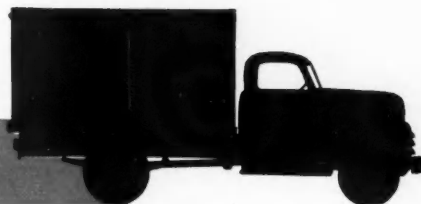
"REGULAR" SERIES: An all-purpose lining recommended for mechanical and hydraulic brakes.

For safer stops—



"1,000" SERIES: Engineered primarily for longer life with powerful vacuum booster systems. Also for air brakes where there is need for faster action than is provided by "2,000" Series.

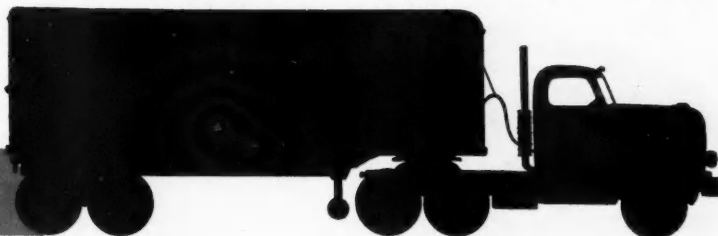
and more of them—



"2,000" SERIES: For maximum mileage and efficiency under extreme conditions with air brakes or powerful vacuum systems.

"C" SERIES: Thick blocks for air brakes or powerful vacuum systems.

use the axle groups



"Friction-Engineered" FOR YOUR EQUIPMENT

● On any equipment, under all conditions, you get safer stops—and more of them—with the correct American Brakeblok axle groups on your brakes.

Each American Brakeblok group is "friction-engineered" for the braking system on which you install it. It provides the exact combination of frictional and wear characteristics that your truck requires. Result: you get smooth, sure stops every time, with fewer adjustments and less maintenance.



American Brakeblok is distributed through 38 NAPA Warehouses, helping jobbers everywhere give prompt, complete service.

AMERICAN

Brake Shoe

COMPANY

Across America, "friction-engineered" groups and sets are the No. 1 choice of leading fleets. Use them on *your* fleet. Give your American Brakeblok Jobber complete data on your vehicles, and he will supply you with the "friction-engineered" sets you need to keep them stopping *safely—at lowest cost.*

American
REG. U.S. PAT. OFF.
Brakeblok

BRAKE LINING

AMERICAN BRAKEBLOK DIVISION
DETROIT 9, MICHIGAN

FRUEHAUF Cuts up to 1250 lb from

Engineering changes and refinements, together with an increased use of light-weight materials such as aluminum and magnesium, in stainless steel dry-freight and refrigerator vans produced

by the Fruehauf Trailer Co., have resulted in total weight savings up to 1250 lb per unit.

The main weight saving features include:

Full magnesium floors.

Vertical front supports with aluminum castings, stampings and extrusions.

Forged aluminum wheels.

Forged aluminum-door hardware.

Pressed steel brake shoes.

Forged aluminum gear boxes (on gravity tandems only).

The new flooring, a Fruehauf exclusive, consists of "boards" about 6 in. wide and as long as the trailer. They are composed of a series of length-wise, magnesium I-beams, the upper flanges of which are provided with tongue and groove construction to permit complete interlocking. The lower flanges of the I-beams rest on the cross sills.

In the "reefer" models, another element (termed a "keeper") is used between each pair of "boards" to lock them to the cross sills and to promote free movement of air beneath the payload. The "keeper" is a low, single-section element that is also tongued and grooved. It is mated with the tongue and groove of the adjoining "boards" and secured by countersunk screws to the anchoring pieces in the insulated portion of the floor to hold the top-flooring elements in place. The tongues and grooves are coated with a sealing compound before assembly



**VALVE JOB?
GOSH NO! THESE
PAR PLUSES
WILL ROLL FOR
20 MORE TRIPS!**

Take advantage of the Par Plus Plan for exchanging your valves like fleet owners all over the country are doing. Contact our nearest distributor in:

New York
Boston
Philadelphia
Buffalo
Newark
Pittsburgh
Detroit
Cincinnati
Columbus
Chicago
Milwaukee
Indianapolis
St. Louis
Tulsa
Los Angeles
San Francisco

or write Parts Processing Corp., 2100 Howard St., Detroit 16.



Stellite-faced for the tough hauls, Par Plus processed valves are better than par because they give you all these pluses:

- Reduce out-of-service time for valve replacement and regrinding while giving 5 to 10 times longer service than best alloy steel valves.
- Eliminate the common troubles: burning, warping, breaking, etc.
- Save service expense, prolong engine life, keep up power.
- Increase fuel performance.
- Cost so little extra!

PAR PLUS VALVES

PARTS PROCESSING CORP.

DETROIT AND BATTLE CREEK, MICHIGAN



New forged aluminum wheels save 187 lb on new 35-ft gravity tandem model

Stainless Steel Vans

to assure a watertight floor. Air is circulated and water is drained along V-shaped recesses over each I-beam section and the troughs created by the "keepers," eliminating the need for duct boards in most cases.

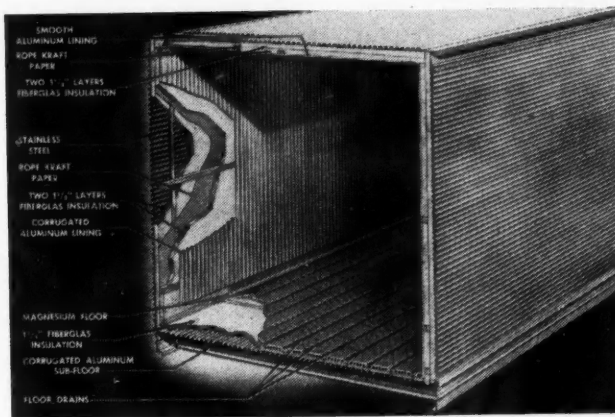
Specially-formed sidewall floor sections fit the outer "boards" and carry the magnesium floor several inches up the sidewalls, serving as built-in flashings.

The weight saving stemming from the use of the new Fruehauf magnesium floor alone is 23½ lb per running foot of trailer, or better than 700 lb on a 30-footer. In addition to eliminating weight, a major advantage of the magnesium floor is the elimination of checking, warping and all the expansion and contraction, moisture and odor absorption to which wood is subject.

Total weight saving on a 35-ft refrigerator van with gravity tandem is summed up as follows:

- 800 lb for the magnesium floor;
- 135 lb for the aluminum vertical supports;
- 187 lb for the forged aluminum wheels;
- 80 lb for the pressed steel brake shoes;
- 45 lb for the aluminum gear boxes.
- 1247 lb total Weight Saving.

RIGHT: Detailed construction features of new Fruehauf stainless steel van with magnesium floor



BUILD REPUTATION! Do heavy-duty carburetor repairs *Better* through the

Zenith

Instruction Program

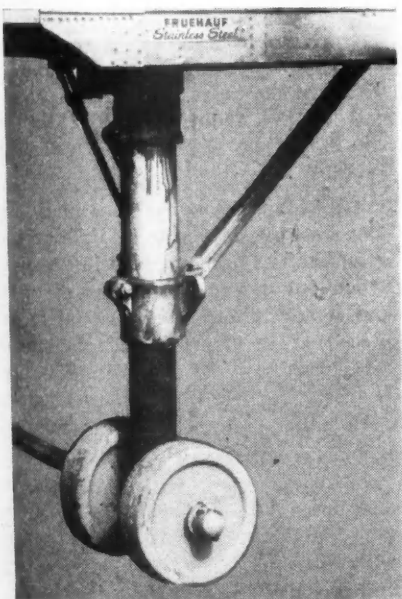
Attract more business by having a reputation for fast, expert heavy-duty carburetor repairs! Have your men take the new streamlined Zenith instruction course. Conducted by factory experts, it is short, thorough, well worthwhile. It will pay off in faster, better work and, coupled with efficient Zenith* Package Repair Kits, will result in substantial profit gains and more customers. Contact your Zenith distributor or the factory direct.

*REG. U.S. PAT. OFF.



ZENITH CARBURETOR
696 HART AVENUE • DETROIT 14, MICHIGAN

DIVISION OF
Bendix
AVIATION CORPORATION



With aluminum castings, stampings and extrusions, supports are 135 lb lighter

COMMERCIAL CAR JOURNAL, May, 1949

Factors Involved in Trailer Selection

Continued from Page 90

erned by the service intended; their size will allow attachment of cross members at the bottom and roof ribs at the top. The intermediates will have sufficient thickness for metal screws to fasten panels and lining. Their size and number will be determined by inner loading requirements, and this will determine the thickness of a satisfactory lining. The entire truss design

will be governed by basic requirements other than its load carrying capacity.

Substitution of ribbed sheets fastened to all verticals is economical from a weight standpoint, but again consideration must be given to shear in the panels and the number and size of rivets in relation to the panel thickness. Due to low stresses in the panel of about 1500 p.s.i. maximum, light

metals such as aluminum will be as efficient as heavier steel panels. It must be remembered, however, that these panels are load carrying and must be maintained. Sheets should not be so light as to be subject to constant damage even though structurally they are sufficient.

Corrugated sheeting may be substituted for either the truss or stressed panel, and its thickness will be governed by side loading requirements the same as the trussed side.

The problem of a satisfactory lining is similar to the floor; 1/4-in. plywood is generally used, but the degree of satisfaction this material renders is in proportion to its service requirements and the members backing the lining. Corrugated aluminum weighing about the same was substituted during the shortage of plywood with a fair degree of success. It, however, had to be protected against loading truck knives by a wood member at the bottom.

Operations requiring the maximum cubical area and low loading heights can use the drop frame to advantage. Approximately 8 ft from the front, the floor drops normally 18 in. to 21 in. and allows this added space at the rear of the vehicle. The disadvantage is that the wheel wells cut into the floor space and restrict free loading.

Weight Saving

NATURALLY, a pound saved in the weight of a trailer is an added potential pound of cargo. Substitution of light alloys as a means of saving weight is here. Where operators cover long distances and where loads are generally heavy enough to be close to the law limit, additional revenue is possible by use of these weight savings. The savings from additional payload has shown as much as the entire cost of the equipment being written off in a matter of seven or eight months.

The prime advantage aluminum has over steel in addition to its light weight is its ability to be extruded into shapes which cut down the number of parts and it also allows the material to be placed at points of maximum stress. Since the cost of extrusion dies are low by comparison to steel tools, great latitude is available to the designer.

To show one set of results for comparative purposes, let us consider a conventional tandem van trailer 32 ft long weighing 11,200 lb. This trailer with aluminum panels, landing gear, and wheels weighs 10,500 lb. By redesigning for light weight, the unit will be 8500 lb, representing 2000 to

(TURN TO PAGE 114, PLEASE)



STANDARD EQUIPMENT

ON NATIONALLY ADVERTISED MOTOR TRUCKS

THE ONLY BURN-OUT-PROOF SWITCH

Signal-Stat

DIRECTIONAL SIGNALS

When truck manufacturers seek trouble-free safety equipment for directional signals, whose do they choose? Signal-Stat! It's no accident that the choice is always Signal-Stat, with the Burn-Out-Proof Switch. The selection is based on performance! And fleet operators favor Signal-Stat because of dependability. It's the mechanic's choice because of ease in installation. Catalog on request.

BROCKWAY TRUCKS

Signal-Stat CORPORATION
SIGNAL-STAT BUILDING
1430 Herkimer St., Brooklyn 33, N. Y.

APPROVED BY STATES REQUIRING DIRECTIONAL SIGNALS • S. E. M. A. • A. A. M. V. A.

Pre-tested performance



There's no guesswork with the new Hastings Aero-type Spark Plugs—in manufacture or installation. You know exactly what each plug will do *before* you put it in service.

You know by the exclusive Performance Rating System. Hastings Plugs are rated by the same tests given aircraft plugs. This pre-determines the amount of work each plug will do, under hot or cold operating conditions.

Moreover, each and every Hastings Plug

is X-ray inspected before it comes to you. Fluoroscopic examination makes sure the electrodes are properly seated and sealed; that construction and heat flow are uniform.

Add these features—the H. T. Aluminum Oxide Insulator, Hastings' adherence to aircraft standards, the wider gap setting—and you'll realize here is a spark plug you always can trust.

SPARK PLUG DIVISION, HASTINGS MANUFACTURING CO., HASTINGS, MICH.



\$1.25 and worth it!

If Hastings Spark Plugs are not yet available in your territory, write direct for illustrated catalog. Distribution is being developed as rapidly as possible—your jobber will be able to supply you soon.

Trailer Selection

Continued from Page 112

2700 lb savings. This includes a saving of 500 lb in the floor by substitution of fir for oak. Any way you want to consider this, it offers a potential ton payload at no increase in gross.

The fir compares with oak as follows: load carrying 90 per cent, shear 60 per cent, and denting 50 per cent, so that loading will have to be done with more care if the same life is to be expected.

Discussion

A prepared discussion by A. Walter Neumann, of The Willett Co., follows:

"Weight is one of the most important considerations in the construction of trailers, and especially so for those used in highway operations. However, 50 per cent of the commercial trailers in operation are used for interplant and city work, which constitutes the bulk of our activity.

"In view of the conditions under which our equipment is operated, the type of handling to which it is sub-

jected, and the length of time it is used, the factors we are primarily interested in are low maintenance cost, interchangeability and low initial cost.

"Our equipment is operated from 8 to 10 years, and is stored outdoors in all kinds of weather throughout the seasons. It is subjected to extremely rough use in the railroad yards, and cramped loading areas, and docks throughout the city. At many of the platforms between which we operate shuttle service, where trailers are picked up and dropped many times during the day, trailers are placed 6 in. apart, and in extreme cases even closer.

"Our trailers, therefore, must be built substantially to handle 25,000-lb loads, consisting of items of every size, shape and description, and withstand being put to diversified uses, under adverse loading and unloading conditions.

"In our experience, not much effort has been made to build trailers meeting this need.

"The following considerations would help reduce maintenance costs:

"1. The construction of heavy rubrails at the top and bottom, with good guard rails and rear bumpers to take the abuse and bumps.

"2. Running corrugated strips longitudinally above rubrails and full length of the trailer further resists bumps and cuts. Plates installed at the upper and lower corners with lights recessed in them, affords greater strength and resistance to bumps when spotting.

"3. The use of proper rust preventives or bonderizing agents on roofs, side panels and under frame, before painting to prevent rusting. The use of undercoating material at the bottom and top of panels, where they join the roof and floor would further protect vulnerable spots.

"4. Providing more adequate protection to brake connections by recessing and reinforcing.

"5. Developing a better method of packing or lubricating brake connections would assure longer life, as would the use of non-rusting materials.

"6. Substantial landing props and wheels with stops to limit the amount they are lowered to prevent smashing, under conditions where the legs cannot be wound up. Often a trailer may be picked up and dropped four times before completely loaded or unloaded. Place gear boxes well within rubrails for protection from bumps.

"7. Rear door handles and locks must be so designed to be fool proof since they are sometimes forced by freight handlers, if they don't close

(TURN TO PAGE 116, PLEASE)

Put Your Money on the

Thermoid Line

Built for Heavy Duty Service



Thermoid Brake Blocks are made to give you reliable performance under ALL operating conditions, hot or cold, wet or dry—they are not a compromising adaptation. They last longer and reduce "downtime" maintenance costs.

For heavy duty applications requiring up to ½-inch thick braking materials, Thermoid CBB Sets are dual-friction, specially molded.

The Thermoid Line

Brake Linings • Clutch Facings • Fan Belts
Radiator Hose • Hydraulic Brake Parts and Fluid
Car Mats • Thermoid Precision Process Equipment
Complete Brake Service Departments

Thermoid Company, Trenton, New Jersey

Reliance HEAVY DUTY TRAILERS

USE

SHULER AXLES



THERE ARE NO BETTER AXLES, AT ANY PRICE!

SHULER AXLE COMPANY, Inc.
Louisville, Kentucky

Since 1915, Manufacturers of: One-Piece Tubular and Square Trailer Axles, Front Axles, Machinery Trailer Axles, Machinery Front Axles, Front-Steer Trailing Axles, Heavy-Duty Brakes (Mechanical, Vacuum and Air), House Trailer Axles, Miscellaneous Forgings for Heavy-Duty Trucks and Trailers.

DETROIT OFFICE: 8424 Woodward Ave.

EXPORT DIVISION: 38 Pearl St., New York

WEST COAST WAREHOUSE: 1280 Forty-Fifth St., Oakland

CHICAGO OFFICE: 845 Chicago Ave., Evanston

Trailer Selection

Continued from Page 114

easily. The use of hardware that permits the rear doors to be opened without extending beyond the side rubrails would cut down repairs.

"8. Catalogue trailer body parts to facilitate ordering replacements.

"9. Make provision to store tarps on flat bed, and open top trailers so they will be protected against weather and pilferage.

"10. Provide good solid steel lined floors, to resist wear by fork lift trucks and loading equipment."

MERRILL C. HORINE, of Mack Mfg. Corp., brought up the subject of king pin location with respect to improving load carrying capacity through increasing the offset to 30 in. With this change, he suggested, it was possible to provide a gain of 2695 lb payload. He asked why fifth wheels could not be placed on the trailer instead of the tractor, thus providing trunnions on the trailer and two point suspension in a jackknife, thus making for im-

proved stability. In the following discussion it was brought out that several manufacturers had developed such a device but that fleet operator demand had not justified its use as yet.

J. L. S. SNEAD, of Consolidated Freightways, pleaded for better brake synchronization between tractor and trailer, improved suspension systems, lighter weight materials, more axles to spread the load over more area. He stated that standardization of trailers is hoped for by fleetmen who practice trailer interchange.

FRED B. LAUTZENHISER, of International Harvester, took up the subject of rating trailers, suggesting manufacturers rate trailers by GVW as truck makers have done. Mr. Black did not feel that this system would be put into effect within the foreseeable future.

END

(Please resume your reading on P. 91)

Instrumentation

Continued from Page 92

and that is to tell everything possible about distributors. A typical unit includes (1) a chuck for holding the distributor; (2) rpm gage; (3) adjustment for variable speed control; (4) vacuum pump and variable adjustment therefor; (5) neon signals to indicate timing characteristics; (6) a circular ring marked off in degrees, which is movable for a zero setting and serves as the scale from which readings can be made as the contacts make and break.

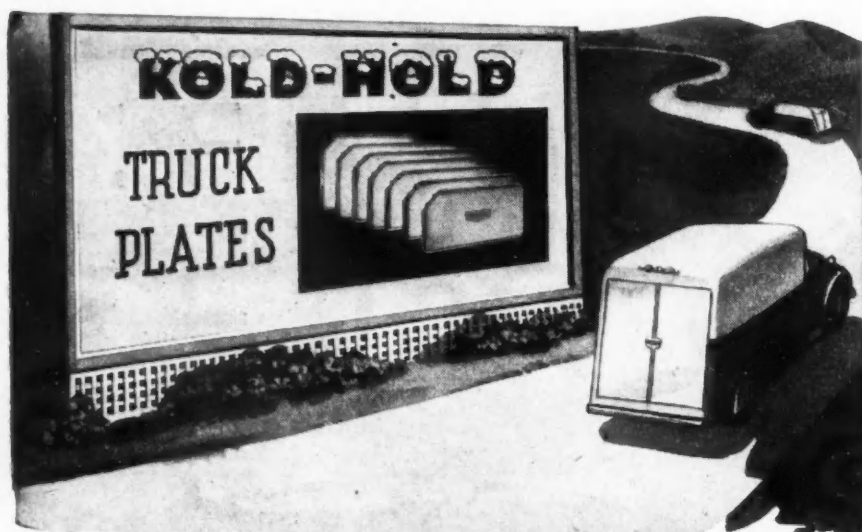
The distributor tester attempts to simulate actual running condition so that observations can be made accordingly. Some of the uses are as follows:

Indicates cam angle or individual lobes; checks vacuum spark advance against factory specifications over the range of operating requirements; checks centrifugal spark advance against the specifications for various rpm's; indicates sticky automatic or vacuum advance; vacuum mechanism leakage; point bounce; worn cam, distributor shaft, shaft bearing, bent shaft.

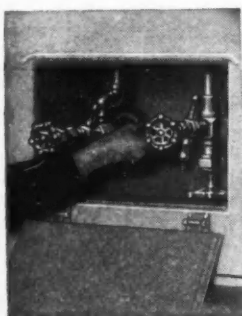
Discussion

ERVIN N. HATCH, of New York City Transit System, in a prepared discussion of Mr. Nuttala's paper stressed the importance of procedure in making tests to determine engine condition. He suggested that overall engine tests be conducted first; then breakdown instruments be used. He

(TURN TO PAGE 119, PLEASE)



**GUARDING FRESHNESS
ALL THE WAY
COST...LESS THAN A DIME A DAY!**



Your perishables stay fresh no matter how long the road, or how hot the day . . . when your trucks have KOLD-HOLD safe-level protection. And at night the undelivered load does not have to be removed only to be reloaded next morning. A simple "plug in" connection makes your trucks "Cooler-Rooms on Wheels."

The efficient design and streamlining of KOLD-HOLD HOLD-OVER Plates permits a free flow of air throughout the truck body, leaving 100% clear plate surface for fast cooling. Specified safe temperatures are held with uniformity. Streamlining also allows the plates to "fit in," leaving a maximum of payload space. Costing less than 10c per day to operate, KOLD-HOLD Plates will give a lifetime of clean — efficient — maintenance free service.

KOLD-HOLD

Jobbers in Principal Cities

KOLD-HOLD MANUFACTURING CO.,

620 E. Hazel Street, Lansing 4, Michigan

Instrumentation

Continued from Page 116

warned that adherence to instruments in each case might take too much time especially if in the hands of untrained mechanics. Choice of instruments should be made with consideration of time, efficiency and economy of maintenance.

CHARLES HUDSON, of Tennessee Valley Authority, stated that instrumentation is costly in fleet maintenance and offered the suggestion that driver training is one of the more practical methods of cutting maintenance to a minimum. He mentioned that many fleets might extend PM mileages with more complete and accurate service performed as needed. One of the primary requirements of fleetmen, he said, was either instruments, or more reliable methods to determine the life expectancy of units and parts.

END

(Please resume your reading on P. 94)

\$20,000 Slogan

Continued from Page 73

servicings from run-down batteries. But no such results occurred. This apparently has demonstrated that when a truck engine is restarted, after having been off for only 5 to 10 minutes or a little more, that the required starting kick-over does not take a great deal of battery power. Also, we have been reminded that when such an engine is left idling, little if any charging takes place; hence there can be no great loss when the engine is entirely cut off during short periods.

From another angle, it is evident that our new plan of motor shut-offs will afford two additional positive savings. One of these savings will be the checking of the oil dilutions and the resulting sludge formation which may be assumed during all of the short periods when the engine is left idling. In addition, at all times when the engine is left idling, this idling will represent some degree of engine wear; wear which, of course, will be checked during those periods when the engine is entirely cut off.

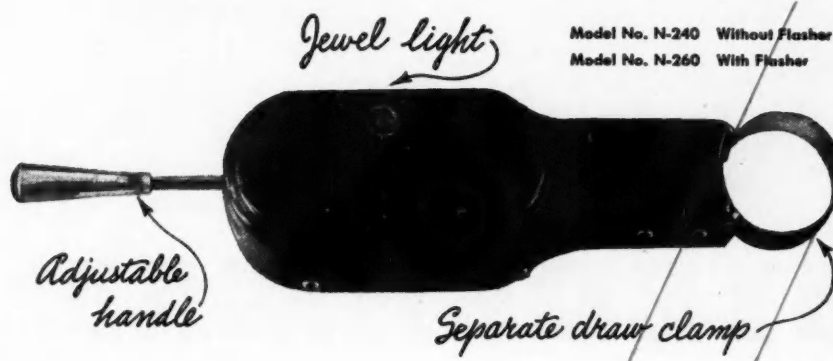
END

(Please resume your reading on P. 74)



16000 gal of butane gas arrive at Butane Corp.'s Phoenix, Ariz., storage plant via a Mack tractor, two Fruehauf trailers, and two American Pipe Co. tanks

For a Better Switch... Better Switch to ARROW



Check the features of the new Arrow Directional Signal Switch against those of any switch on the market, then switch to Arrow for safe, sure protection... for a better switch at a lower price.

POSITIVE PROOF INDICATION. One feature alone makes it worth the low cost. That's a tell-tale jewel light that tells you whether your signal lights are working—not just the switch. If one or more of your lights are out, or there is a break in the lamp circuit, the jewel light will indicate that the system is not functioning perfectly.

FINGER-TIP CONTROL. Adjustable handle can be moved in and out to provide finger-tip control regardless of the size of the steering wheel.

EASE OF INSTALLATION. Separate mounting bracket fits any size steering column merely by tightening a screw—a matter of seconds.

BUILT-IN PROTECTION. Built-in line fuse prevents short circuit caused by improper wiring from affecting other lights in your vehicle.

DEPENDABILITY. Tested for over 175,000 cycles.

ATTRACTIVE, MODERN DESIGN. Compact, good-looking.

The new Arrow switch is available for 6- or 12-volt systems, with standard or with stop-light-proof wiring-harness, with or without a flasher mounted in the switch case, and for a 2-light or 4-light hook-up. It can be used in combination with any Arrow Signal Lights or with any system now in use.

See the amazing new Arrow switch at your dealer's today.



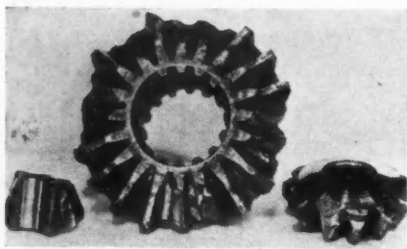
SAFETY AFTER DARK

ARROW SAFETY DEVICE COMPANY • MOUNT HOLLY, NEW JERSEY

Continued from Page 80

CAUSE:

Excessive Clutching, Shock Loading



EFFECT:

Fractures of differential side gears and side pinions are of the shock type, produced by stresses greater than the maximum strength of the parts. Break occurs at once when high pressures are applied. Shock fractures of this type will show a grainy structure. Sufficient shock may cause side pinions to slit.

REMEDY:

In winter months on icy roads, avoid wheel spinning and breaking through ice suddenly to stop against high traction pavement. Lighter loading may pay off in winter operation or when ground conditions are poor.

CAUSE:

Axle Shaft Misalignment



EFFECT:

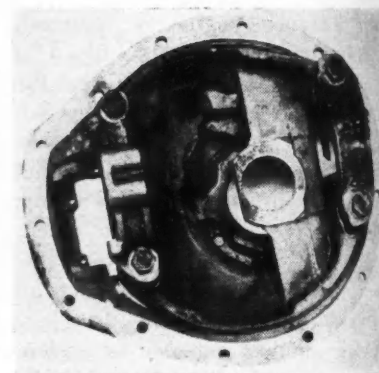
When axle shafts are sprung or twisted, side gears may become mutilated. Bent housings cause such failures.

REMEDY:

With misalignment, stresses are concentrated to localized areas, instead of being spread over the entire splined area. Maximum strength of metal is exceeded and failure results. Failure occurs over a period of time. Check on vehicle operation, load conditions and driver handling of loads in a move to cut down this type of failure. When one axle shaft fails, examine opposite one, as it may become bent or sprung at the same time.

CAUSE:

Vehicle Overloading



EFFECT:

Differential carriers are worn oversize at the inner pinion bearing bore. Bearing failure, damaged bevel gears and pitted planetary gears may also accompany this type of failure.

REMEDY:

End play in the outer bearings coupled overloading account for many failures of this type. When overhauling this assembly, be sure all worn parts are replaced, as damage in one bearing may expedite failure in other parts of the assembly.

END

(Please resume your reading on P. 81)



BIEDERMAN

The All-Star Truck

- ★ Advanced Design
- ★ Ready Accessibility of all Parts
- ★ Sturdy Construction
- ★ Dependable Power
- ★ Capacity for Big Loads

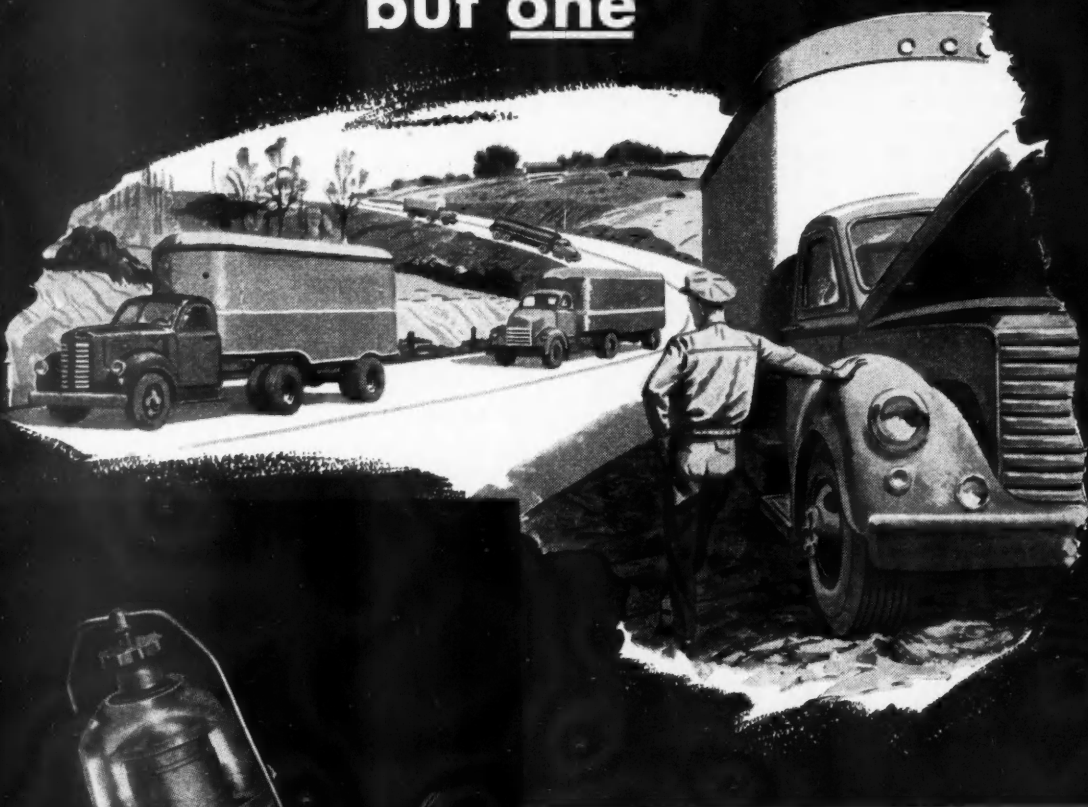
DEALERS:

The Biederman National Standard Model, the peacetime successor to a long line of quality trucks since 1920, is a truck you cannot afford not to investigate. Nothing but the most sturdily constructed units by America's leading manufacturers are built into it. It's an All-Star team in itself. It has strength, durability, comfort for the long trip, easy accessibility of every part and modern design.

This is your opportunity to secure the Sales Franchise of a quality product. There is still some territory open. Write or wire us today for complete specifications.

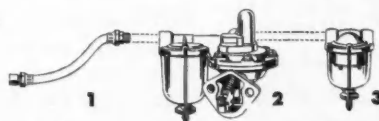
BIEDERMAN MOTORS CORPORATION
CINCINNATI 14, OHIO

All earning money... but one



**THE AC FUEL PUMP SYSTEM
HELPS KEEP YOU
OUT OF TROUBLE**

AC **FUEL PUMP** **SYSTEM**



1. Leaky fuel lines are not only dangerous, but cause faulty operation of the fuel pump. Install a new AC Flexible Gasoline Line when you replace your fuel pump. 2. AC Fuel Pump, Heart of the Fuel System. 3. AC Gasoline Strainer keeps dirt and water out of carburetor, promotes easy starting and protects delicate carburetor parts. Your fuel system needs one.

That truck by the roadside is losing money for its owner ... because the fuel system failed.

No need for that. The AC Fuel Pump, properly serviced, is one of the most reliable units on any commercial vehicle, ensuring a constant supply of fuel for tens of thousands of miles.

Inspect your AC Fuel Pump at regular intervals for pressure and flow ... and do as many operators do, replace all pumps at specified mileages. Those are the ways to guard against failure.

You can go farther. The complete AC Fuel Pump System gives you 3-way protection. It's the Pump, plus the AC Gasoline Strainer, plus the AC Flexible Gasoline Line.

AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

COMMERCIAL CAR JOURNAL, May, 1949

Fleet Decentralization Saves \$42,400

Continued from Page 69

Husson at one of the regular monthly dinner sessions of the Chicago Section of the Society of Automotive Engineers.

Husson stated that, based on the preliminary survey, he had estimated that such a decentralization program, when fully carried through, would result in a net saving of at least \$45,000 per year.

But when operational costs for the full year of 1948 were checked and only half of the proposed total decentralization program had been actually carried out, the savings amounted to \$42,400.

The preliminary survey had indicated the change would bring an estimated annual gross saving of about \$60,000. This included a saving of

\$24,000 from elimination of an estimated 230,608 non-productive truck miles chargeable at a cost of 10.7 cents per mile, and a total savings of \$36,000 in drivers' pay for this mileage (18,592 driver hours at an average over-time rate of \$1.88 per hour). The estimated savings in truck mileage was obtained by separating the operating year into summer and winter seasons (because of the seasonal differences in truck assignments). Then from the actual company records for the two seasons of the previous year, Husson tabulated for each yard the total of trucks used and days of work. He also classified the trucks in three different sizes, light, medium and heavy. These totals of truck days, multiplied by the round-trip mileage between each yard and the centralized garage being used, gave the mileage that could be saved.

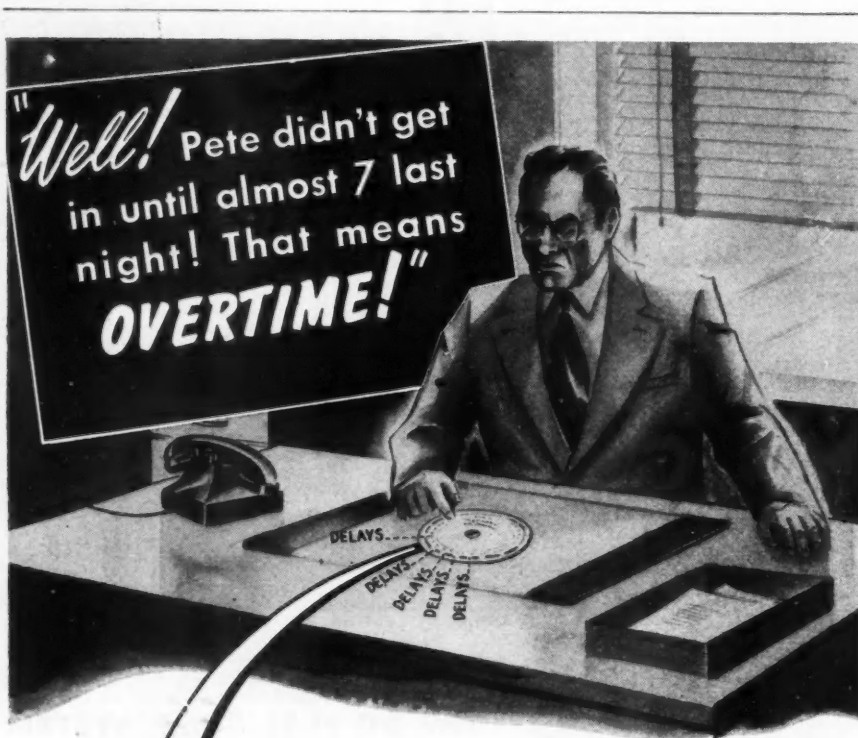
Similar calculations indicated a saving of 18,592 hours of work by drivers. This was converted at an average rate of \$1.88 per hour for drivers' overtime pay, which gave the total of about \$36,000. Overtime pay rate was used on the assumption that at least a large percentage of the time saved would be in the overtime bracket, beyond the minimum straight-time day of eight hours. This assumption was confirmed by an additional analysis of the yearly company payroll. It was found that the actual overtime pay during the year had been considerably in excess of the total estimates of savings from lessened drivers' time.

What would be the annual costs to the company from capital investment and depreciation for the construction and maintenance of the new decentralized garage and servicing facilities needed to replace the two centralized garages, and what extra hazards and complications would be involved?

Outside Storage Required

FIRST of all, it had been assumed that the company could safely and economically store and service their trucks out in the open, even during the most severe winter weather. This outside storage would require draining the trucks or the use of additional anti-freeze; testing radiator cooling fluid at least once a day, preferably when the trucks were being gassed at night; and extra driver time to warm up truck engines on severely cold mornings. This hazard from outside winter storage was accepted as one of the "calculated risks" involved in the program. The risk proved well justified. During the entire winter of 1947-48, and up to early March of the 1948-49 winter, Husson stated there had not been a single instance of a

(TURN TO PAGE 124, PLEASE)



"But," continued the boss, examining the Servis Recorder chart, "I also see here that Pete was delayed by having to wait for his first load until 9 o'clock yesterday morning! And worse yet, I see here that his truck stood idle somewhere for 2 solid hours in the afternoon. Wonder if that is what caused the Overtime? Now, I don't mind paying for legitimate Overtime—I mean if it's justified, unavoidable. But I want to KNOW!"

No wonder the boss was peeved. But with the aid of his Servis Recorder charts, he began to investigate all these daily delays and soon found that many could have been prevented. Then Overtime started to drop.

You, too, can lessen your Overtime expense by equipping your trucks with Servis Recorders. They show up all delays. Write for the whole story. The Service Recorder Company, 1375 Euclid Ave., Cleveland 15, Ohio.

The Chart That Tells The Story



The Servis Recorder

Tells Every Move Your Truck Makes

Keep 'Em Rolling With Genuine FORD Parts



New Utility Kit Means More Profit from Ford Wiring Jobs

The time-saving electrical parts kit illustrated above was designed especially to meet your Ford service needs. It contains all the parts necessary to handle practically every Ford wiring job. The four 100-foot spools of ignition wire in popular sizes are plainly marked for quick selection. The convenient clear plastic box in the sliding drawer below contains an ample supply of insulators, terminals and connectors as well as a special wire cutter-stripper.

When ordering from your Ford Dealer, specify kit number 8A-14294 for plastic box and contents only or kit number 8A-14293 for the complete kit with four wire spools plus plastic box and contents.



Commercial Operators . . . Keep your Ford cars and trucks on the road longer, with less shop time, by always specifying Genuine Ford Parts on every replacement job. They're the parts that are made right to fit right and last longer! Genuine Ford Parts mean time and money saved for you with safer, surer operation.

Genuine FORD Parts...**Right for FORDS!**

FORD Division of FORD MOTOR COMPANY

COMMERCIAL CAR JOURNAL, May, 1949

Decentralization

Continued from Page 122

truck having its engine frozen. In the original budget setup, there had been an allowance of \$3200 as the estimated annual cost of delays for engine startings on very cold mornings, but this cost has been "much less."

Driver Complications

SECONDLY, what if any complications would arise from the fact that

drivers would be reporting for work at points possibly further from their homes and sometimes at changing points.

Under the new decentralized plan, the driver's pay for the day begins when he reports direct to the yard where he will load; and his day ends when he finishes his work that night at the same yard.

Because many of the trucks are dual purpose vehicles there necessarily is some reassignment of trucks and drivers from day to day and season to season among the various company yards.

At first it was thought this condition might be unfavorable to a plan for decentralized operations. But this did not develop, because it was found that almost 90 percent of Consumers' drivers were coming to work either in their own private cars or through pickups by other company workers.

New Building Details

THIRDLY, the new program would require erection and maintenance of a number of small new decentralized garages. It was originally decided that the minimum required facilities for each new small garage would be a heated, one-stall building. It must be large enough to house: (a) One truck, when maintenance work must be done on it during periods of summer rains and winter snows and freezing weather; (b) a work bench, with adequate tools and servicing equipment which should include an air compressor, greasing gun, battery charger, tow chain; (c) a cabinet, for small repair parts and supplies; (d) space for spare tires, and drums of motor and hoist oil, and anti-freeze; (e) also, outside facilities for storing and dispensing gasoline, and adjacent parking space for trucks.

The initial survey had indicated that a full program for decentralized trucking services to all of the company's 17 yards and quarries would require a total of 11 one-stall buildings, and two additional two-stall buildings at which 20 or more trucks could be stored. This would make a total of 13 needed new buildings to serve 17 loading locations, since two of the company fuel-oil yards are combined with coal yards. It was also decided that at four of the company yards, existing heated buildings could be remodelled for such use.

Translating these needs into building construction costs, it was estimated that each of the one-stall buildings would cost \$3500; and that a two-stall unit would cost \$4550. Hence, a required total capital investment of \$47,600. Additional capital investment needs for the gasoline tanks and pumps, air compressors, greasing machines, and miscellaneous equipment was placed at \$18,000, bringing the total required investment to \$65,600.

Assuming a building depreciation period of 20 years, and an equipment depreciation period of 10 years, this total capital investment would result in an increased yearly expense of about \$4000.

Additional estimated items of increased expense included \$1000 per year for anti-freeze, not previously used; \$3900 for increased mechanics' wages; \$2900 for the increased night use of the regular day service trucks;

(TURN TO PAGE 126, PLEASE)



This Rolling Stone Gathers Moss

And Here's Why—It Has

**BUELL
AIR HORNS**

"Moss," "Green Stuff," Dollar Profits . . . that's what this truck makes for DeYorgi Bros. of the Bronx, New York. Gathering profits while "rolling stone" is easy *if* the truck can make fast deliveries of heavy loads through city traffic. That's where air horns help by cutting slow-downs . . . but why Buell Air Horns?

HERE'S THE REASON

Only Buell Air Horns have the "free-floating disc" principle of producing sound. This means you get more volume and power from a Buell than from any other horn of equal size. You make no periodic adjustments for air pressure or tone. And Buells can give a soft, polite signal with as little as three pounds of air pressure! You have *power* when you need it . . . *control* when you need it.

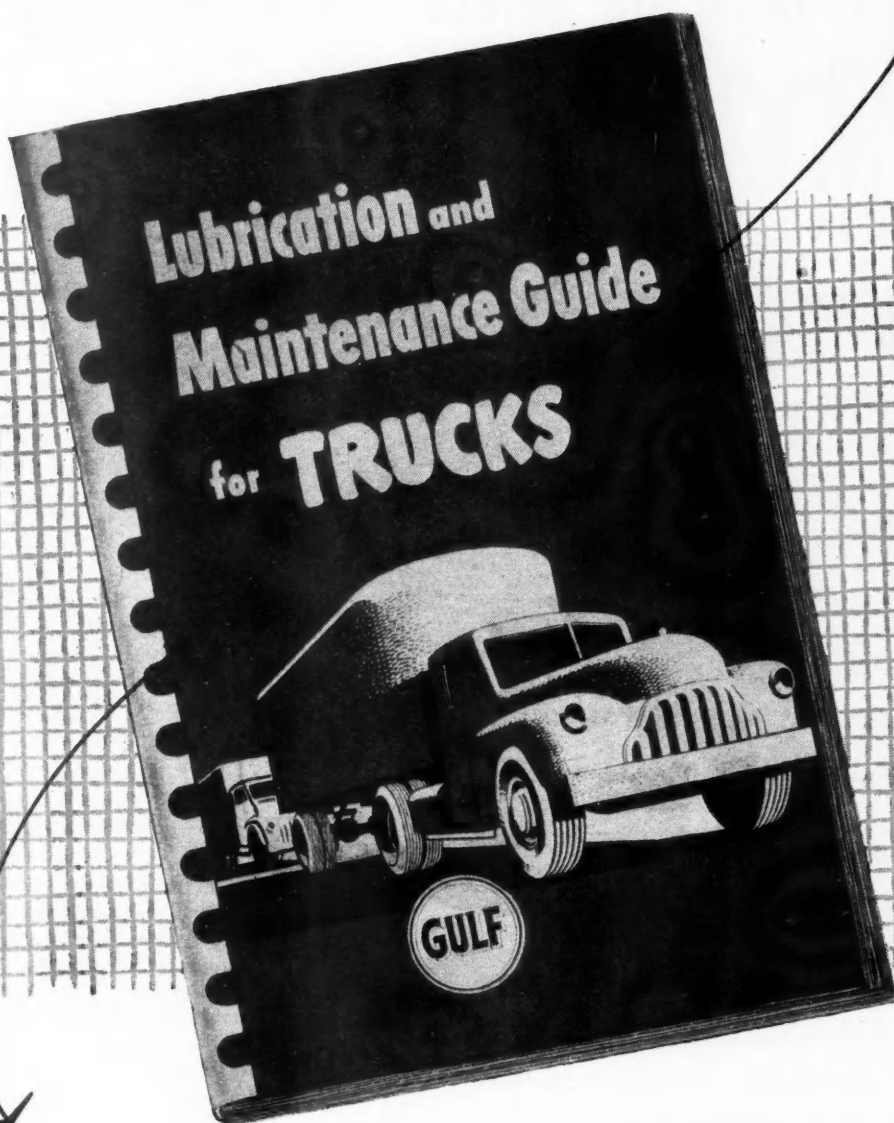
These are the reasons why manufacturers and truckers alike specify Buell Air Horns. These are the reasons why Buells Are A Better Buy—Better Buy Buells.

Write for literature and fleet discounts

Standard equipment on Autocar Trucks and GMC Buses.
Approved for installation on all air-equipped trucks and buses.

BUELL MFG. CO., 913 W. 49th Place, Chicago 9, Ill.

Send for **YOUR** copy of this valuable book



96 pages of helpful information in handy pocket size!

Here is help for truckers who are harassed by high operating and maintenance costs! Gulf's new Guide, just off the press, is packed with valuable information on how to properly lubricate and maintain your fleet.

It has been specially prepared by Gulf Lubrication Engineers with the sincere hope that it will be useful to you and your organization. It is easy to read and authentic in every detail. To get your copy, just fill in and mail the attached coupon.



Gulf Oil Corporation - Gulf Refining Company

3800 Gulf Building, Pittsburgh, Pa.

CCJ

Please send me my copy of "Lubrication and Maintenance Guide for Trucks."

Name.....

Company.....

Title.....

Address.....

Kester Flux-Core Solder

...The Mechanic's SILENT PARTNER



Good mechanics know that

Kester Acid-Core Solder will do those numerous repair jobs faster and better. Kester Solder, in 1, 5 and 20-lb. spools, is the most important item in your shop. Insist upon **KESTER ACID-CORE SOLDER** from your jobber... the mechanic's standard for over half a century.



METAL MENDER AND RADIO SOLDER AVAILABLE IN HANDY "TOOL KIT" PACKAGE

A convenient size for those "away from the shop" jobs, or as a quick turn-over resale item that sells on sight (25c in most areas). Packed ten boxes to a display carton.

KESTER SOLDER COMPANY

4201 Wrightwood Avenue Chicago 39, Illinois
Factories also at Newark, New Jersey • Brantford, Canada



**KESTER
SOLDER**

Decentralization

Continued from Page 124

and \$3200 for delayed driver time in getting the trucks started on extremely cold mornings.

These several items of yearly expense, as listed, total \$15,000. This sum, subtracted from the gross estimated annual savings of \$60,000 from lessened truck mileage and wages of drivers, leaves an estimated yearly net saving of \$45,000 from the Consumer Company decentralization program. At this rate of saving, the new capital required for the company decentralization program would be returnable in 1.5 years.

Program Progress

THE construction program was hastened by the remodelling of three of the existing buildings located on the North Side, and the construction of three new buildings, two of them on the North Side and one on the South Side. It was also decided that, to provide for possible future expansions, the three new garages should have three stalls each, instead of the one- or two-stall minimums originally planned.

In February, 1947, the large North Side centralized garage was sold, and the trucks formerly stored there and the mechanics who had worked there were transferred to the new facilities. It was also decided, while work was in progress on two of the three-stall garages under construction, that one of the stalls in each of these garages should be transformed to provide an additional locker room for driver comforts. This change included a locker for each driver, toilets, hot and cold washing facilities, a shower bath and cooled drinking water. This still left, as originally planned, two stalls for the mechanical service work.

One of the new quarry garages was completed in May, 1947, and the other in August, 1947. Thus, during the fall and winter of 1947 a total of nine centralized garages were in operation. This included three new garages and six remodeled facilities, seven of the nine located on the North Side and two on the South Side. During 1948, no additional decentralized garages were completed, but at practically all of them there were minor improvements to speed the truck operations.

Financial Summary

IN his summary of "money results" from that part of the decentralization program already carried out.

(TURN TO PAGE 128, PLEASE)

Nothing ever revived a truck like a

CASITE TREATMENT



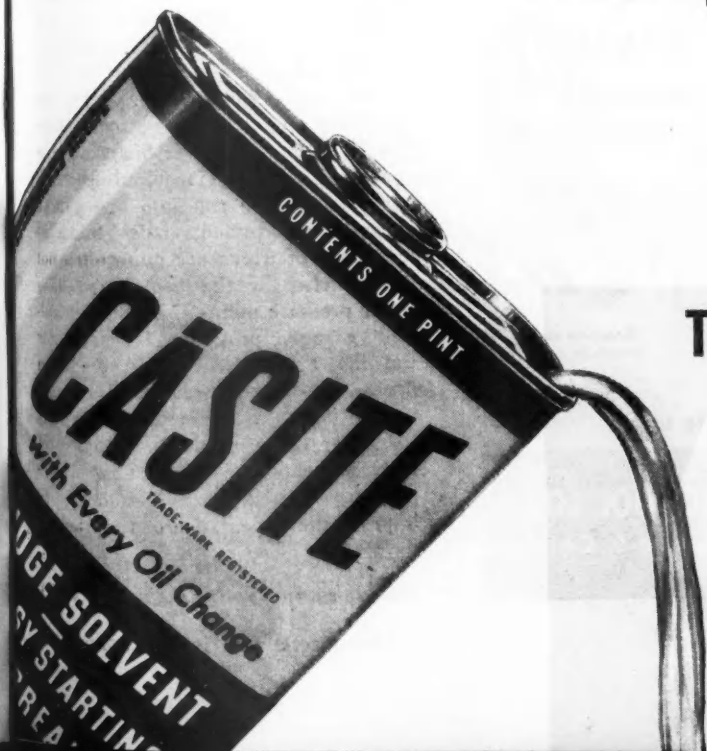
Here's your sure cure for sludged-up, gummed-up engines. Here's your chance to get better and smoother engine performance all summer long.

The Casite Treatment is simple, quick, economical. In just a few minutes you can revive any engine's zip and power . . . release sticky valves and rings . . .

remove gum and goo. Casite gives extra protection, too—when added to any motor oil, Casite speeds lubrication quickly into the tight spots—retarding wear, cutting repair bills.

Start using the Casite Treatment today—get keen engine performance every day—get longer engine life.

THE CASITE CORPORATION • HASTINGS, MICHIGAN



THE CASITE TREATMENT



CASITE THROUGH THE AIR INTAKE

CASITE IN THE CRANKCASE

in accordance with directions on the container.



TYPICAL of new decentralized shops is this modern brick structure, similar to one shown in plot plan, p. 68

Decentralization

Continued from Page 126

which involves only about one-half of the total company operations, he stated that an analysis of their automotive expense sheets for 1948 "shows that the net 1948 yearly savings amounted to \$42,400, as compared with the estimated \$45,000 for the entire decentralization program." He reported that the larger saving had been due principally to the use of more trucks than originally calculated, at the new decentralized garages; and also to the higher unit values for both the miles and the hours saved. These higher unit values had been caused by a base pay increase, between 1946 and 1948, of 30 cents per hour for both drivers and mechanics.

The 1948 mileage saved had totaled 198,000 miles for that part of the new system put into effect, as compared with the estimated 230,608 miles. Also, the 1946 mileage cost rate of 10.7 cents had advanced for 1948 to 14.8 cents per mile, due to the increased cost of gasoline and mechanics' wages. The 1948 overtime hours actually saved through the changes made had totaled 12,457, as compared with the 1946 estimate of 18,592 hours that might have been saved for the entire system. But as compared to the 1946 overtime rate of \$1.88, the average 1948 overtime rate had advanced to \$2.29.

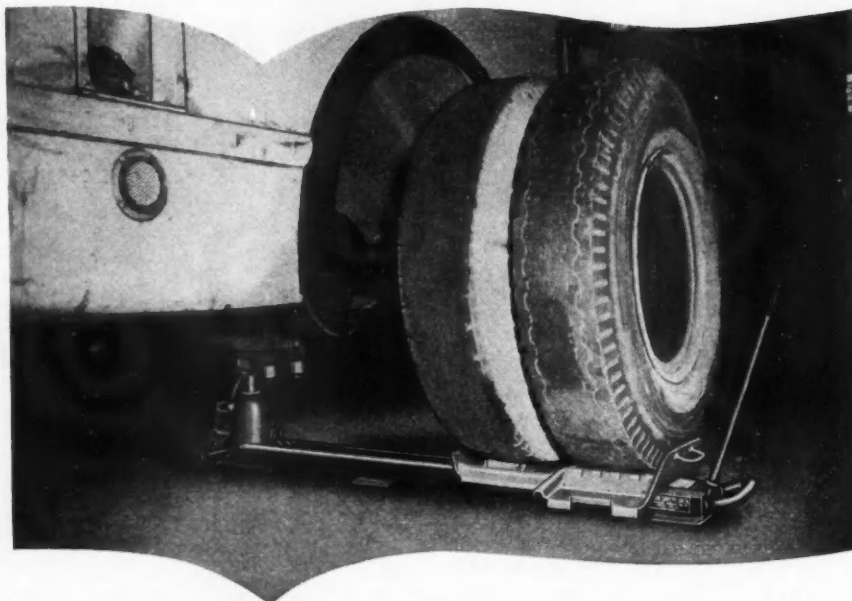
Better Operation

HUSSON reported that, entirely aside from the money saved, the Consumers Co. new decentralization program had shown other advantages. "These include," he stated, "the ability of the decentralized garage mechanic to give a closer personal attention to the trucks under his charge, as compared with that received when 60 to 75 trucks are run into one garage at night with minor repairs, the least important of which are quite often not made. Also, by the installation of a water pressure pump at each decentralized garage, provision is made for washing the trucks out in the open during non-freezing weather. The washing is done by the combination gas dispenser, greaser and janitor; and with a stepped-up production in the company's paint shop, this helps to improve the appearance of the trucks."

END

(Please resume your reading on P. 70)

COMMERCIAL CAR JOURNAL, May, 1949



● The Drum *Safety* Jack Removes Dual Wheels Faster

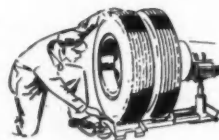
ONE MAN removes dual wheels faster and easier with a twin-dolly DRUM SAFETY JACK.

Eliminates dangerous greased plates. No need for expensive, cumbersome dollies. No more crawling under trucks and buses. No heavy wheels to lift.

The twin-dolly DRUM SAFETY JACK keeps dual wheels in alignment with the axle at all times.

Approved by leading fleet and bus operators. Available in 12-Ton single-dolly and twin-dolly models.

- **FASTER**
- **SAFER**
- **MORE EFFICIENT**



Removes dual wheels as a unit.

See your jobber or write to:



THE CLEVELAND PNEUMATIC TOOL CO.
3769 East 77th Street • Cleveland 5, Ohio

Want to Cut Accidents?*

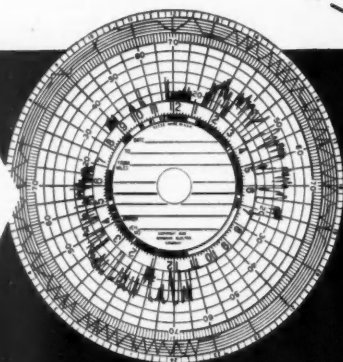
equip your vehicles with

TACHOGRAPH

THE TIME-TESTED RECORDING SPEEDOMETER



CHART
RECORDS ALL
MOVEMENTS



- WHEN ENGINE STARTED
- HOW LONG ENGINE IDLED
- WHEN VEHICLE WAS IN MOTION
- HOW FAST IT TRAVELED
- WHEN VEHICLE STOPPED
- DISTANCE TRAVELED BETWEEN STOPS



RED LIGHT
WARNING
WHEN SET
SPEED IS
EXCEEDED

*Here's what an Experienced driver says:

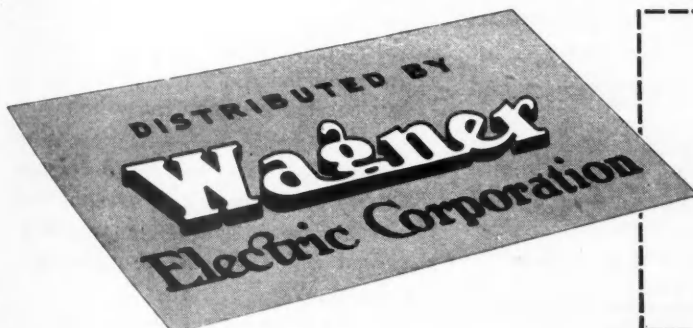
"I have heard a lot of fellow truck drivers say that Tachographs are just a bunch of telltales so the company will know all that goes on. I don't look at them that way. I truly believe they have helped my company in their safety program. I do know they have helped me in mine, because they record all I do, and I try to bring in a chart showing careful driving practices."

John C. Disharoon, Coastal Tank Lines



Safety programs are of vital importance to fleet operators. Mounting accident rates mean reduced profits—higher insurance premiums—loss of business.

The Tachograph gives a lift to any fleet safety program by encouraging safer driving. It gives a graphic record of the entire trip of a vehicle. It furnishes a complete, absolutely accurate report of every movement of the vehicle. This practical instrument has proved its value in promoting safety through years of use on thousands of commercial vehicles. Manufactured by Sangamo Electric Company, it is fully guaranteed.



Wagner Electric Corporation

6476 PLYMOUTH AVE., ST. LOUIS 14, MO.

Please send a copy of Bulletin SU-3B.

Name and Position _____

Company _____

Address _____

City _____ State _____

We operate _____ Vehicles
(NUMBER)

S49-2

Absenteeism

Continued from Page 67

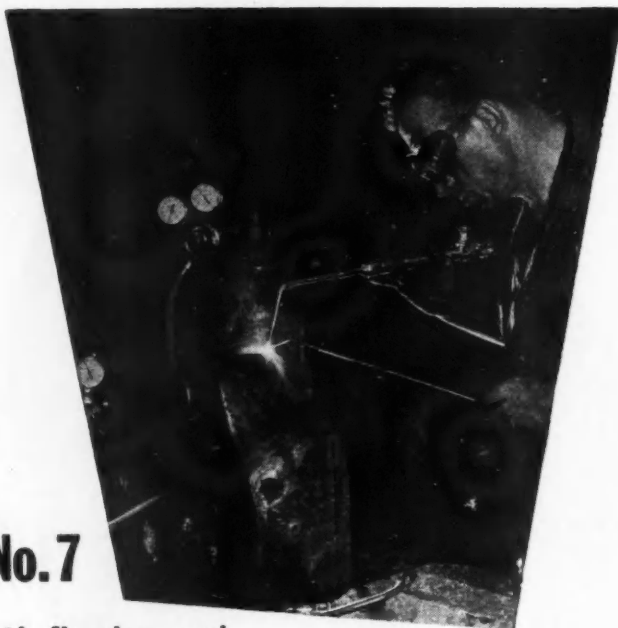
By using a putty knife on the surface it was discovered to be comprised of countless layers of grease and dirt.

The pay rate here was comparable with good shops in the same territory. There were better mechanics working for less money in other shops.

This shop attracted the worst class

of truck mechanics. It got the slovenly mechanic who would not be tolerated in a first-class shop.

Most of them came to work when they got ready and often were absent two and three days in a week. The foreman could never tell whether he was going to have a full crew or a half crew. High costs of such an operation was a continually recurring source of trouble between management and foreman. Labor turnover was almost so high that records could not be kept.



AIRCO No. 7

...a smooth-flowing rod

of uniform quality for all-around garage gas welding

Here's a low-priced, mild steel rod that's especially designed for general-purpose, everyday welding around the garage. Welds made with the Airco No. 7 will develop up to 50,000 psi tensile strength, and high elongations of 25-30%.

This exceptional rod is just one of the high quality accessories and supplies immediately available from your local Airco Dealer's complete stock of gas and arc welding gloves, goggles, helmets, fluxes, rods, hose and electrode holders. In fact, everything you need — promptly, from stock — for oxyacetylene and electric arc welding.

In addition to this extraordinary service, when you buy from an Authorized Airco Dealer, you are assured quality merchandise, at lowest possible prices . . . so, get in touch with him today — ask him about his complete line of gas and arc welding accessories and supplies.



This Emblem Identifies
Your Airco Dealer

AIR REDUCTION

Offices in Principal Cities

Plus A Nationwide Dealer Organization

Headquarters for Oxygen, Acetylene and Other Gases...Carbide...Gas Cutting Machines
Gas Welding Apparatus and Supplies...Arc Welders, Electrodes and Accessories

Good Training Important

MANAGEMENT in many fields using trucks decries the fact that apprentices and desirable young men are not attracted to the truck maintenance field. Slovenly operated shops do not attract young men, but the well-operated and efficiently-equipped shops do attract high-type young men because they offer a desirable future.

The shop with the best record for lack of absenteeism was also discovered to be the safe shop. Standard safety practices were required. Motors were not revved up unless wheels were chocked, trucks were not jacked up unless protective stands were used in addition to support the load if the jack failed.

Another definite factor in the reduction of absenteeism was means for allowing mechanics to learn to use the various machines. There was provision for the ambitious mechanic to progress.

Permitted Absence Pays Off

IT is readily understood, of course, that many things can happen that will make it imperative for an employee to be absent. In this category we list sickness, hobbies, family trouble.

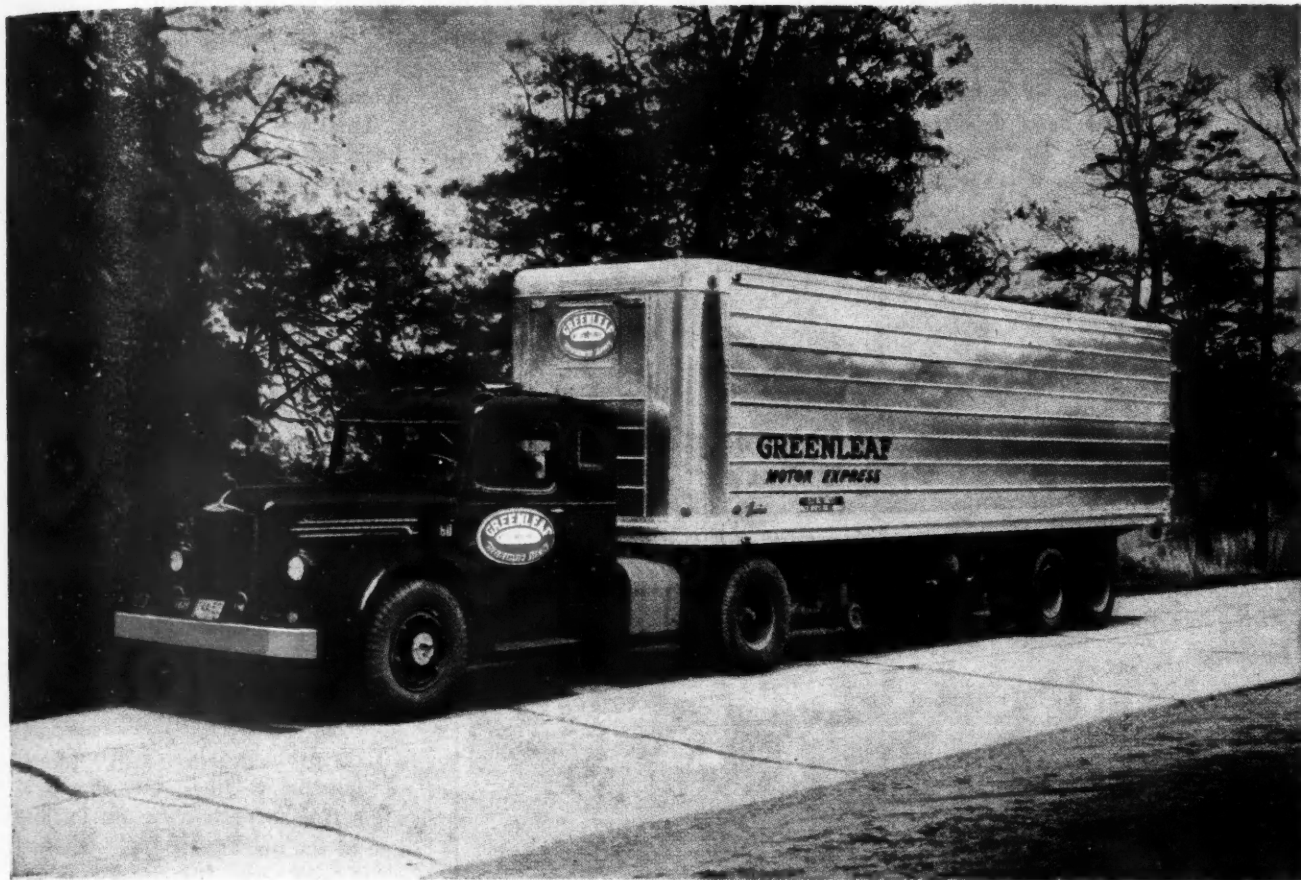
In a well-operated freight line shop in Virginia I found a foreman who took care of the desires to lay off in this manner. He let it be known that any mechanic who had to be off because of some emergency could always get the day off by asking him. The other men took up the slack, and the man who took the day off received his pay as usual. When a man gets paid for being off and his fellow employees have to do the work he would have done, few employees want off because it places them at a disadvantage. If an employee has so little character as to abuse this privilege, other employees soon remedy the situation with ways of their own.

In shops where annual vacations are provided there is little absenteeism because of following a hobby.

It is a matter of record, too, that absenteeism was less in the shops where regular vacations were the rule and highest in the few shops interviewed which did not provide vacations at all.

(TURN TO PAGE 132, PLEASE)

"5000 lbs. more payload per round trip with Browns" says Greenleaf Motor Express Co. of Ashtabula, Ohio



The Greenleaf Co. Depends on Brown Aluminum Trailers to get More Fish to Market . . . On Time . . . In Good Condition . . .

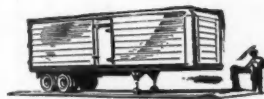
5000 pounds more payload per trip—
\$2328 extra gross revenue a year—
Payload that's profitable in every state—
Rugged construction that reduces repairs—
Easy hauling—beautiful appearance . . .

That's the experience report of Greenleaf Motor Express Company of Ashtabula, Ohio, who turned to Brown Lightweight Aluminum Trailers to solve the problem of hauling profitably from Boston through to cities in low-load states.

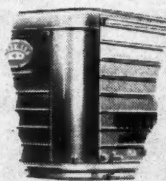
Greenleaf's principal cargo is fresh and frozen fish — a type of cargo that requires dependable performance — performance which will get the product into market on time and in good condition to demand top prices.

Brown's lightweight, frameless,

monocoque construction puts the weight in the payload where it pays off in greater profits. Ask your local independent distributor to put a Brown on the scale—see for yourself that Browns will save up to 30% in trailer weight compared with conventional type trailers. Have him take you over Brown construction point by point, and then ask him for proof of performance based on the experience of other operators.



"The scale tells the tale"



STRONG ALUMINUM EXTRUSIONS

Corner posts and long-erons of Brown Aluminum Trailers are stiff, strong aluminum extrusions. They are riveted to the sides and top panels to form an integral unit. This feature has been a part of Brown Aluminum Trailer design since 1931.

Brown

ALUMINUM TRAILERS

BROWN TRAILERS, INC.
Box 54 Box 873
Spokane, Wash. • Toledo, Ohio

Sales and Service in: Akron, Chicago, Cincinnati, Cleveland, Denver, Fort Worth-Dallas, Fresno-Sacramento, Great Falls, Indianapolis, Jacksonville, Kansas City, Los Angeles, Milwaukee, Minneapolis-St. Paul, Omaha, Portland, Richmond, St. Louis, Salt Lake City, San Francisco, Seattle, Spokane, Toledo.

Absenteeism

Continued from Page 130

Delegated Responsibility

IN SHOPS that are clean and well-equipped and operated at a reasonable standard, absenteeism stems from many small things. An ambitious man may lose interest in his job because he has not been delegated enough responsibility. The man who likes his job and is on it every day usually feels that he *must* be there.

Here's an example of how responsibility through full departmentalization works out in a shop that has virtually no absenteeism.

The superintendent was approached by a foreman of one of several large departments. He wanted to explain that he couldn't get something done because some mechanic wouldn't cooperate.

"Don't tell me what your men are doing," the superintendent replied. "You're the foreman of that department and as such I hold you strictly

responsible for all the work done or left undone. If you can't work out the differences with your men you know what you can do and if I can't get you to operate your department to my liking I know what I can do. I won't have any divided responsibility, no alibis and no shifting of a foreman's responsibility to the superintendent."

This was on an entirely friendly basis and was not as hard-boiled as it sounds in print.

Later when the man went away, he explained: "If I let one foreman bring me his troubles with personnel, it would only be a question of time, until all of them would be in my office every day to tell their troubles."

The superintendent further declared that as opposed to allowing a foreman to come to him and discuss the work of an employee, he asks that any of them, come to him when they have an idea that will help the company, help those who work in the shop or know of any changes that can be made that will better conditions.

One Rotten Apple

ONE problem always present, according to those interviewed, at some time or other, is the familiar one of the one rotten apple in a barrel of good ones. It is not always easy to spot this one troublemaker because he is not always a troublemaker. Wise executives can, however, eventually isolate this one personality that causes the most trouble. It is futile to attempt reformation. He is not all bad, as a rule, but more often is a square peg in a round hole and many of them eventually find jobs in organizations where their personalities don't clash so vigorously.

In the industry as a whole as viewed in the shops interviewed for this survey, absenteeism is no problem at all in modern shops with good equipment and reasonable working conditions.

Another point the results of the survey emphasized is that ability, training and experience which a mechanic has, can never do the fleet owner any good unless he can get the man to work at it. This man is not going to work at it unless he is given the surroundings and equipment necessary.

END

(Please resume your reading on P. 68)

DAY and NIGHT DUTY

Get EXTRA Value from Advertising Messages and Safety Markings with By-Buk Processed Scotchlite

**VIVID
ADS by DAY
become . . .**



**BRILLIANT
ADS by
NIGHT**

GIVE your equipment 3,000-foot night visibility with easy-to-apply By-Buk Processed Scotchlite. Barricading, letters, numbers, your own trademarks and designs appear in brilliant true colors—day or night. No glare. Light is reflected directly to its source from any angle.

Highway safety increases sharply with added visibility. Under conditions of fog or haze, By-Buk Processed Scotchlite can be seen for as much as five times the distance at which ordinary reflectors

or painted signs are visible.

Time lost in the shop is cut as much as 80 percent when you use the exclusive By-Buk process that makes Scotchlite as easy to apply as a decal. No specially skilled labor or tools are required.

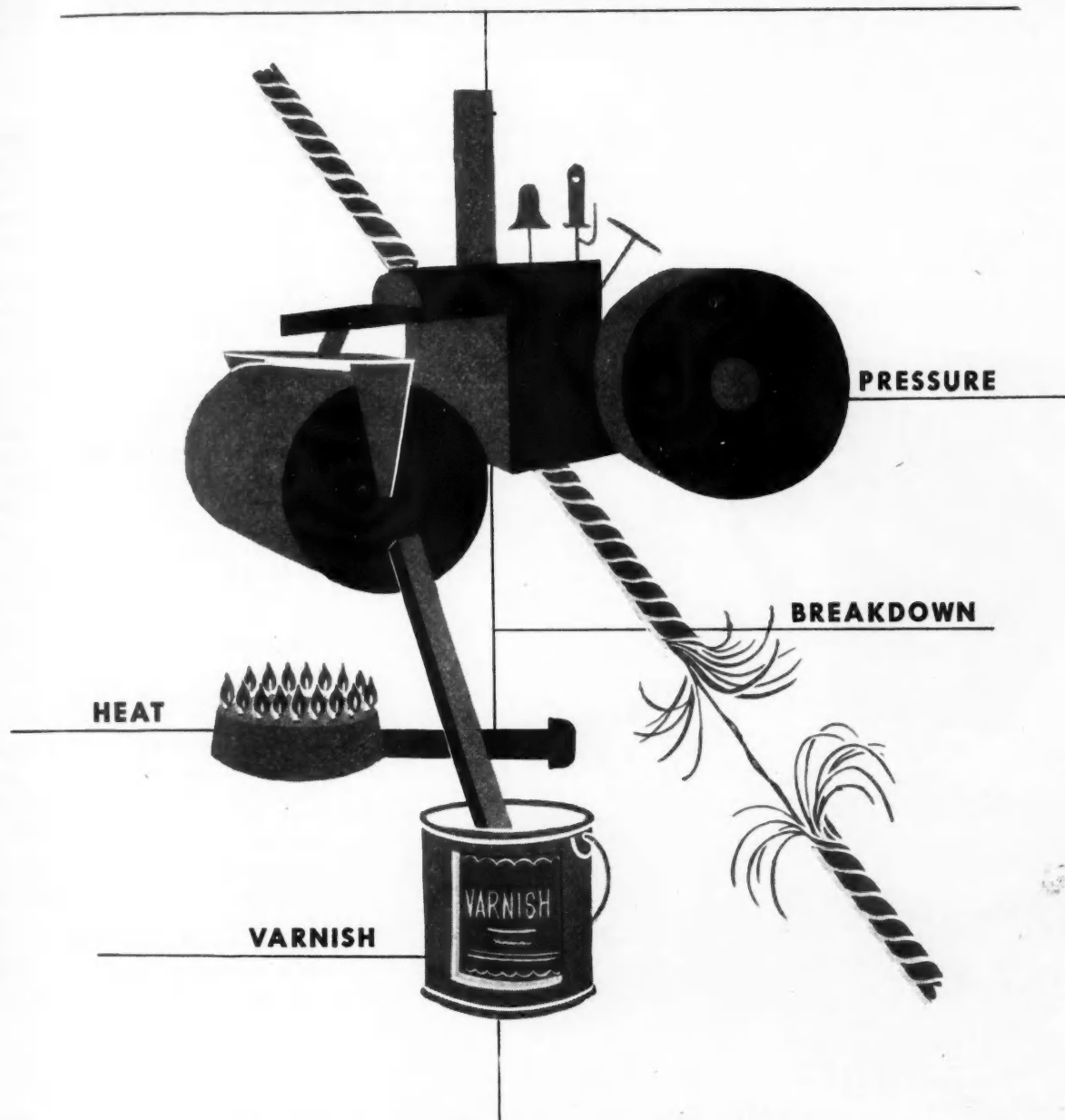
For real economy, By-Buk Processed Scotchlite outlasts painted surfaces. Stands exposure to weather of all kinds and repeated cleaning by steam or solvents. No maintenance required.

Write today for complete details about this revolutionary material for all highway equipment.

BY-BUK COMPANY

4314 W. PICO BLVD., LOS ANGELES 6, CALIFORNIA

Stabilized to resist —



A THIN FILM of grease between a few gear teeth is the only "bumper" between a vehicle's loaded weight and the torque of its engine. That's why it's so important that a gear lubricant retain its cushioning "body" despite the heat and pressure of severe summer service.

No better grease than Quaker State Quadrolube exists for this purpose. It's *stabilized* against breakdown and thinning. It inhibits rust and corrosion, resists all the factors which attack lubricating effectiveness. It's refined from 100% pure Pennsylvania grade crude oil—you know what that means in inherent quality. So if the "maintenance" item in your

operating account looks large, you owe it to yourself (and your vehicles) to use Quaker State Quadrolube.



STABILIZED
QUAKER STATE
QUADROLUBE
AND SUPER QUADROLUBE*

*Specially compounded for the lubrication of hypoid gears

QUAKER STATE OIL REFINING CORPORATION • OIL CITY, PENNSYLVANIA

COMMERCIAL CAR JOURNAL, May, 1949

SPRINGS, BRAKES, CLUTCHES

THE SAE National Transportation Meeting, Cleveland, March 28 to 30, featured papers on such subjects as spring suspensions, magnetic fluid clutch, trailer selection, engine testing equipment and heavy-duty brake developments, by such prominent men in the

industry as Hendrickson of Laguna Beach, Cal.; Rabinow of the National Bureau of Standards; Black of Trailmobile; Nuttala of Cities Service Oil Co.; and Ricker of American Machinist. These and other papers with prepared discussions by other engineers rounded

out the eventful three-day meeting.

Jacob Rabinow, of the National Bureau of Standards, told the group at the opening session that shock absorbers can be made adjustable by utilizing a fluid having viscosity externally controllable by means of a magnetic fluid. Adjustment to road and load conditions can be made, he stated, by passing a magnetic field through a fluid filled with finely-powdered iron. Viscosity of the liquid is increased by the fluxing of the iron particles. This same principle has been used in small magnetic clutches, and he predicted that it would find widespread application in hydraulic devices, since present day valves may be replaced with simple coils of wire. While the electromagnetic clutch has several advantages over the friction type unit, it is not applicable in its present form to vehicle installation due to production costs, sealing difficulties and residual magnetism which slows down release.

In a paper prepared by N. E. Hendrickson, consulting engineer, Laguna Beach, Cal., and Murray Fahnestock of *Ford Field Magazine*, the authors recommended improved suspension for vehicles through use of improved springs or radically designed spring systems. Mr. Hendrickson suggested use of longer springs, less waste of spring material through mounting seats, use of finest possible steels and shot-peening of tension surfaces to improve life.

While several types of steel springs are in use today, the spring designer must face the basic fact that for a given load, the weight of the spring is directly proportional to the deflection desired, and inversely proportional to the square of the stress resulting from that deflection. This is true regardless of whether the spring is leaf, helical or torsion bar design. However, much can be done, it was stated, by improvement of design with present day materials. Present day truck springs, they said.



ask them:

"is your merchandise exposed?"



DON'T JUMP!



STEP INTO YOUR PICKUP TRUCK!

New "Caravan" Folding Tail Gate Step saves time and energy, prevents accidents. Opens and closes automatically with tail gate. Heavy gauge steel. Quickly installed on any pickup.

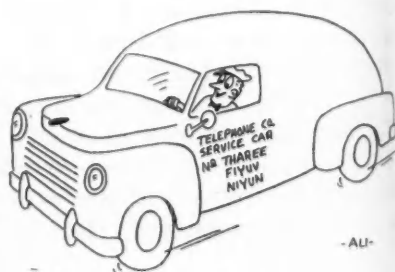
A "Caravan Top" on your customer's pickup not only protects his merchandise against weather and profit loss, but gives him a better-looking truck, more useful for business and pleasure alike! The trimly tailored heavy duck cover and high-tensile aluminum alloy frame make a lightweight unit that one man can easily install or remove in minutes! "Caravan Top" has heavy duty slide fasteners, plastic window, adjustable tie-down. *Cargo, Personnel, and Sportsman* models for most sizes of pickup trucks. See your automotive jobber, or write us.



C. K. TURK CORP.

1122 Mishawaka Avenue • South Bend 15, Indiana

Listed as approved accessories by leading truck manufacturers



GET SAE ATTENTION

are too short, too narrow and too stiff. Development of single-leaf springs, graduated in width or in thickness, and adaptable to the Hotchkiss drive, is undergoing study by some manufacturers, they reported.

Chester S. Ricker, of the *American Machinist*, reported in his paper that safe, economical vehicle operation demands an improved heavy-duty brake and suggested that water cooling or use of air blowers could be used to cut heat from friction and thus improve drum and lining life. He stated that present brakes were too large and that smaller drums would permit better circulation of air and contribute to cooling. He suggested that energy dissipators might be employed to improve the stopping power of the vehicle. He advised operators to first make sure all brakes do their share of the work; then if they overheat, to determine how fast you can operate without heating. Supplementary cooling, retarders, improved loading, power braking and improved driving techniques and improved maintenance will get the most from present day brakes, he said.

In a prepared discussion of Mr. Ricker's paper, J. V. Bassett, Raybestos Manhattan, Inc., had this to say about brake cooling.

We can calculate brake capacity to the nth degree; then the stylist upsets the whole picture by putting pants (or skirts if you wish) so that no air can get to the brake. A brake is a conversion machine; its function is to convert kinetic energy into heat. Therefore the limiting factor for brakes is "How fast can this generated heat be dissipated?" It is physically impossible to supply a metallic mass or reservoir capacity sufficient to absorb it.

Better cooling is a must as brake sizes are getting smaller, while speeds and loads are going up. The 16-in. and

15-in. brakes are more effective than the former 17¼-in. because there is a space for air to get between the drum and the rim to carry off the heat. Air scoops, or placing the drum or tires so that part of the brake drum is in the air stream, is a big help. I know of one

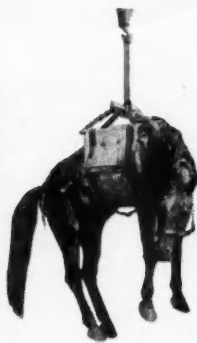
instance where 1-in. thick spacer plates used between the drum flange and the wheel discs put the edge of the drum ½-in. into the air stream, and increased drum from four to five thousand miles to over 60,000 miles.

Auxiliary brakes and/or water cooling is rapidly becoming a must, as power plants get more powerful, loads and speeds go up and there just isn't enough room in the wheels to put in a brake big enough to absorb the KE potential. Aluminum drums show some promise, but only if provision of getting sufficient air to them to carry off generated heat.

Put Your Money on the

Thermoid Line

**Built for
Heavy
Duty
Service**



Thermoid is the best name in fan belts. Thermoid's famous pre-stretching prevents stretch, slip, wear and fail, the four steps that, in ordinary fan belts, mean added maintenance costs. Thermoid fan belts always stay the correct size.

Insist on Thermoid Fan Belts because it's good business to buy the best! Matched sets are available for belt drive applications where needed.

The Thermoid Line

Brake Linings • Clutch Facings • Fan Belts
Radiator Hose • Hydraulic Brake Parts and Fluid
Car Mats • Thermoid Precision Process Equipment
Complete Brake Service Departments

Thermoid Company, Trenton, New Jersey

Fleet Engineer's Wife: "Honey, the speech you made tonight before the delegates at the state trucking association convention was not very effective. Your enunciation was faulty."

Fleet Engineer: "I suppose you could have done better, huh?"

Wife: "Well, I'm considered to be the best public speaker down at the Women's Club. I became a proficient talker by filling my mouth with pebbles and practicing enunciation."

Fleet Engineer: "It's a pity you didn't try Portland cement."

when you want
to get rid of
GREASY DIRT-

but **QUICK!**

THERE'S NOTHING BETTER THAN MAGNUSOL!

It takes the "cling" out of oily, greasy dirt. Better than a steam gun... no heat... no caustic fumes... no attack on paint... no expensive machine. Safe for all metals and non-inflammable, too!

A Matter of Minutes

to clean engines, chassis, extra greasy truck or bus bodies, oily, messy floors. Just spray or brush on the Magnusol mix, let it soak in a few minutes, then rinse with water. Saves hours of workers' time.

Cut cleaning time and hand work to the limit with Magnusol. WRITE FOR BULLETIN #21.

MAGNUS CHEMICAL COMPANY • 38 South Ave., Garwood, N. J.

In Canada—Magnus Chemicals, Ltd., 4040 Rue Masson, Montreal 36, Que.

Service representatives in principal cities



SPRAY ON

RINSE OFF

CLEAN AS NEW

Peterbilt

Continued from Page 94

unit junction boxes accessibly mounted on the dash. All oil, air and fuel lines are of large-sized copper tubing run in loom conduit and clipped to the frame to insure long life and to afford proper insulation from heat, cold and vibration. Lines between frame and engine and frame and cab are through flexible connections with lines running to an accessibly mounted common manifold.

A large accessible, well-ventilated battery box with quick removable cover is attached to the frame on the right side of the cab. This location permits the use of short battery cables.

All trucks carry a large oil bath air cleaner mounted on the outside of the cab. The vertical exhaust stack and muffler with protecting shield are mounted on the right corner of the cab and flexibly connected to the exhaust pipe.

Two 50-gal. fuel tanks, with large filler openings and snap locking caps for fast fueling, are attached to the frame at the rear of the cab. Concave heads and center baffle plate insure greater tank strength. Replaceable end covers protect the rear of each tank and all tanks have a large cast brass sump with drain cock mounted on the bottom.

The cast aluminum assembled type radiator shell with the thermostatically-controlled air-operated vertical shutters is mounted independently of the radiator in the two front Lord mountings on the tubular crossmember. The shell is attached to the cab through a wide top section of the hood so that the cab and radiator shell can move as a unit and allow the radiator to float without any stress.

Frames are deep section fish belly type, 10 $\frac{1}{8}$ in. deep at center, 9 $\frac{32}{32}$ in. thick with 3 $\frac{1}{2}$ in. flanges and tapered both front and rear. Material is chrome manganese heat-treated steel with a tensile strength of 105,000 lb. per sq. in. For off-highway service, a full frame insert or two full inserts are used giving double or triple frame construction depending upon the type of operation. Ample crossmembers are installed for rigidity and all frames are cold riveted.

END

(Please resume your reading on P. 97)

SELF-CONTROL STARTS HERE



and to Restore
ENGINE PERFORMANCE
OIL-CONTROL
STARTS HERE

TO STOP OIL-PUMPING REPLACE
 WORN CONNECTING ROD BEARINGS

A fish in the boat is worth two in the face—and one truck or bus on the road is worth a whole fleet garaged for unexpected engine repair.

Many fleet owners know that it's false economy to leave worn connecting rod or main bearings in the engine. Performance goes up in smoke—and payloads don't roll on schedule. Worn bearings cause oil-pumping and carbon formation. Often, they lead to costly break-downs.



*The Complete Line—
 More Than 7,000 Numbers*
 Engine Bearings • Bushings
 Connecting Rod Exchange
 Reconditioned Connecting Rods
 Rebabbitted Connecting Rods
 Connecting Rod Bolts and Nuts
 V-Seam Piston Pin Bushings
 Bearing Metals • Laminated Shims
 Solders

To keep 'em rolling, check the engine bearings at regular intervals. When worn, replace in sets with Genuine Federal-Mogul Bearings, *engineered for the job of oil-control!*

FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN



**CONTROL OIL-PUMPING
 WHERE IT STARTS—WITH**

FEDERAL-MOGUL

OIL CONTROL

BEARINGS

Answers to Time Out for Play

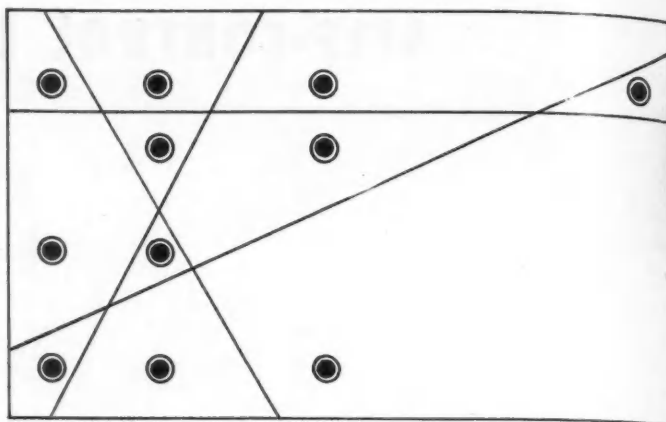
(See Page 22)

Truck-Trailer Combinations

1. REOrganize.
2. DODGErs.
3. MACKinaw.
4. DARTmouth.
5. WHITEcap.
6. LINNet.
7. FORDham.
8. TEChnocracy.
9. STRICKen.
10. GRAMMer.

Country Fair

(See diagram at right)



MOST COMMON COMPLAINTS

POOR SPRING CONSTRUCTION ..	110	
POOR SEAT UPHOLSTERY	118	91%
POOR STITCHING and BINDING ..	82	
OTHER	31	
TOTAL	341	



IN ORIGINAL EQUIPMENT

91% OF SEAT COMPLAINTS*
CAN BE AVOIDED by installing
TRAVEL COMFORT CUSHIONS

**The survey from which these figures were taken covered 176 fleets ... 27,198 vehicles. That's a big sample. And a lot of complaints! Of truck seats commonly used, only 10% were found satisfactory.*

You can avoid the most common faults ... with a maximum of convenience and economy.

Install McNerney Travel Comfort Cushions. They are engineered to fit your cab design. The cushion spring constructions are developed scientifically for your particular vehicle, then upholstered and covered by expert "tailors" in your choice of materials. All you do is set them in the job.

The construction of Travel Comfort Cushions is fully guaranteed. You are assured of finest spring construction, superior upholstery and excellent workmanship throughout. And drivers of your vehicles will enjoy *sustained* comfort because Travel Comfort Cushions are designed to eliminate road shock and thereby lessen riding fatigue.

THE WAY TO BETTER SEATING: McNerney seating engineers will gladly work with you in developing comfortable, trouble-free seating units for your vehicles.

McNerney

SPRING & WIRE COMPANY

427 GOSFRET AVENUE, E.W. • GRAND RAPIDS 2, MICHIGAN

Don't Be Round Tripped

ANSWER: 140 miles.

EXPLANATION: Since both buses meet once, reach their terminals, then meet again, the distance between both terminals is covered three times at the second meeting. The first time the distance is covered, one bus has traveled 30 miles. Since this is its rate of speed (30 miles each time the whole distance is covered), it follows that by the third time the distance is covered, this bus will have gone 90 miles. When it has gone 90 miles, however, it has by itself completely covered the distance between both terminals once, and is 20 miles on the way back. To get the distance between the towns, therefore, we simply subtract 20 from 90, and the round trip is twice this or 140 miles.

Shop Talk

S	e	n	t	1	T	e	n	s
s	H	a	m	2	m	A	s	h
s	l	O	w	3	o	w	L	s
k	e	e	P	4	p	e	e	K

"PROTO" TOOLS

"Proto" is the new trade name recently adopted by Plomb Tool Co. of Los Angeles for its complete line of tools.

Nashville Booster



Super Service Motor Freight Co. co-operates with Tennessee Motor Transport Asso. and the Nashville Chamber of Commerce to publicize merits of the "Friendly City"

Far Cleaner with Walker!

Actual experiences prove the new Walker Oil Filter keeps fleet engines running cleaner . . . longer.

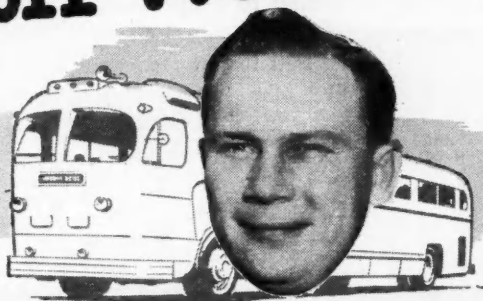
Evidence from scores of fleets, across the nation, proves conclusively that here, at last, is the oil filter capable of providing heavy-duty, heavy-mileage vehicles with uniform positive filtration.

Walker's patented *Laminar* construction combines three separate filtering operations in a single cartridge —works like three filters rolled into one! It takes out even the tiniest bits of power-clogging dirt and sludge. The result is cleaner oil, lower maintenance costs, longer-lasting engine protection.

Walker is the only oil filter that gives you a *predictable performance* guarantee. For the first time you get absolute assurance against channeling, by-passing or migration of the filtering material.

That's why fleet men are switching to Walker after testing this sensational new filter on their toughest units. See your Walker jobber now. Get actual proof by comparison on your fleet, with your loads, over your roads.

WALKER MANUFACTURING COMPANY OF WISCONSIN
Racine, Wisconsin



"Oil filters on our buses really take a beating. There's been a real change since we installed Walker, though. Sludging cut 'way down and, surprisingly, we're getting about twice the life out of Walker!"

—Walter Nussbaum
Amarillo City Bus Company
Amarillo, Texas



"We really hadn't known what an oil filter could do until we installed Walker Oil Filters on our fleet. We've always used filters, but Walker's performance stands out over any we've tried!"

—R. E. Baggott
Commercial Truckers, Inc.
Racine, Wisconsin

"AMERICA'S FINEST OIL FILTER"

WALKER OIL FILTERS

WITH PATENTED *Laminar** CONSTRUCTION

*TRADEMARK



New Products

Continued from Page 32

an engine according to temperature of the water.

When it is desired to put the system in operation, the service man simply sets the throttle to a fast idle position and throws on the control

switch. As soon as the water in the system cools down to the setting of the temperature switch, usually about 70 deg, the engine is automatically started and runs at a fast idle until the temperature is up to about 160 deg, at which point it stops automatically. Except under very severe weather conditions, the engine will seldom run more than about ten minutes an hour. Synchro-Start Products, Inc., Chicago, Ill.



Velvetouch All-Metal Clutch Plates

Again in the 1949 Memorial Day Classic, more cars will be equipped with Velvetouch all-metal clutch facings than all other facings combined. Because Velvetouch is built tough . . . to stand up under the most gruelling 500 mile "road test" in the world. Experienced racers know Velvetouch can take it . . . that it runs cooler . . . last

longer . . . because it's all-metal! Truck operators also know Velvetouch clutch plates mean dependable day-after-day performance . . . require fewer adjustments . . . deliver thousands of extra miles of smooth, trouble-free performance. And that Velvetouch costs less too, when measured in terms of work done! It will pay you to equip your own trucks with Velvetouch . . . the all-metal plate that keeps rolling stock out of the garage, and on the road!

THE S. K. WELLMAN CO. WAREHOUSING CENTERS

ATLANTA 119 14th St., N. E.
BOSTON 171 Brighton Ave.
CHICAGO 2800 S. Parkway
CLEVELAND 1392 E. 51st St.
DALLAS 3407 Main St.
LOS ANGELES 1110 S. Hope St.
PHILADELPHIA 97 E. Montana St.
PORTLAND 636 N. W. 16th Ave.
SAN FRANCISCO 424 Bryant St.
TORONTO, ONTARIO, CANADA
The S. K. Wellman Co., of
Canada, Ltd. 2839 Dufferin St.

FOR BRAKE AND CLUTCH USE

Velvetouch

25 years of service • 1924-1949

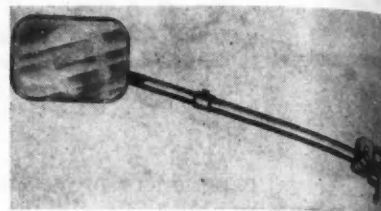
THE S. K. WELLMAN CO.

1374 E. 51st ST CLEVELAND 3, OHIO



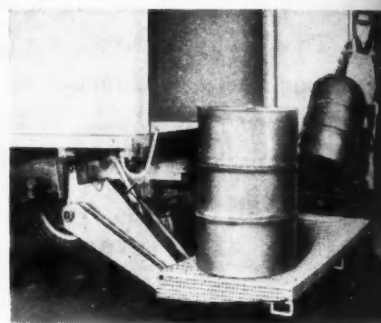
P12. Truck Mirror

A new model of the "Panorama" truck mirror has the mirror head sealed tight in rubber, the edge of the



frame being pressed in to form a water-tight unit. The mirror, which is furnished in both clear and non-glare glass, is rectangular in shape and measures 5 x 7 in., providing an extra large reflecting surface. It has a universal, adjustable hinge bracket which fits all hinges from 1 1/4 in. to 3 1/4 in. May also be installed on cowl, body or fender. Mirror Products, Detroit, Mich.

P13. Loading Tailgate



This new type of power-operated tail gate called the "Load-N-Gate," features twin hydraulic rams which are housed by the two lifting arms, equalized hydraulic pressure, safety type controls, full accessibility of mechanism, relatively light weight and low price. The device weighs but 850 lb, yet it will handle 1500 lb with a generous factor of safety.

By placing the twin hydraulic rams inside the two arms, lifting power is widely distributed under the platform. This method of supporting the load over a wide area is said to insure balanced power and smooth operation. It also avoids excessive strains even under off-center loading.

The entire mechanism is secured to the chassis and body sills by four cold rolled steel U-bolts which distribute the normal strains over the length of the frame, thus preventing localized stresses, frame weaving or distortion. Hercules Steel Products Corp., Galion, Ohio.

(TURN TO PAGE 146, PLEASE)

Here's BIG News!

SHELL'S NEW 3-BARREL PLAN

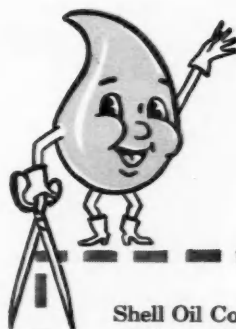
1. Cuts down-time for vehicle lubrication
2. Assures foolproof lubricant application
3. Cuts costs . . . simplifies stocking

Shell Rotella Oil for crankcase use—the oil that embodies new discoveries of Shell Research that CUT ENGINE WEAR . . . that EXTEND TIME BETWEEN ENGINE OVERHAULS.

The Shell Lubrication Engineer will be glad to explain to you the cost-cutting advantages of the Shell "3-Barrel Plan." *Mail coupon for full information.*

*For Hydraulic Transmissions and Worm Drives, get specific recommendations from the Shell Lubrication Engineer.

LUBRICATION



Shell Oil Company, Incorporated
50 West 50th Street, New York 20, N. Y. or
100 Bush Street, San Francisco 6, California

Please send me the particulars of Shell's new
"3-Barrel Plan" for better fleet lubrication.

Name _____

Company _____

Address _____

New Products

Continued from Page 142

P14. Aro Tool Kit

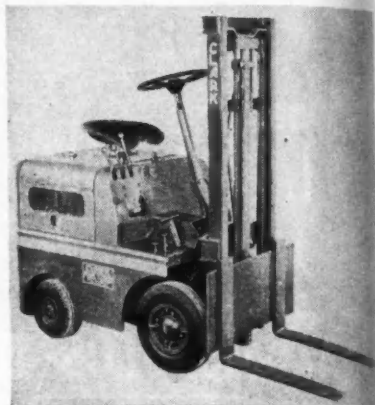
A new line of Aro "Jobmaster" Tools features the No. 2 Kit which includes 7 tools for a wide range of every-day jobs such as drilling, polishing, grinding, sanding, hole sawing, etc. The tools can be quickly assembled to provide a 1-in. hole saw,



2-in. grinder, right angle drill, polisher, 7-in. sander, 1/4-in. drill (pistol grip), and 1/4-in. drill (button control). The Aro Equipment Co., Bryan, Ohio.

P15. Gas Fork Trucks

A number of chassis improvements feature the redesigned Clark "True-loader," fork-lift truck of 1000 lb. capacity. The gas tank is now attached to the rear of the frame and is partially enclosed by the counterweight. The counterweight has been redesigned to more rounded contour.



For easier, more comfortable operation, the steering column has been moved forward to provide more leg room; and lift and tilt levers have been relocated in the same positions as on other Clark models. Clark Equipment Co., Industrial Truck Division, Battle Creek, Mich.

P16. Angle Drive

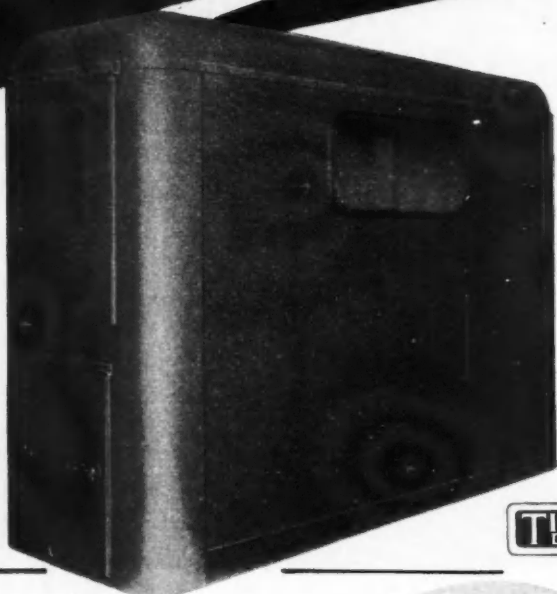


A new angle drive attachment for grinding hard-to-reach valve seats is easily attached to the Waterbury Model EJ eccentric valve seat grinder.

Advantageous on C-O-E's or where the cowl overhangs the rear valves, the angle drive attachment is guided into position on the grinder by two steel pins, and locked with one screw to the grinder spindle housing. A light, rigid aluminum bracket holds the flexible drive shaft, which works in a steel swivel block fitted with 2 "Oilite" bushings. A wear pad is included. Waterbury Tool, Waterbury, Conn.

(TURN TO PAGE 148, PLEASE)

TIMPTE *Sleeper* CAB



TIMPTE
DENVER

The new TimpTE Sleeper Annex was engineered, designed and manufactured to conform with the requirements and desires of Drivers and Owners—

STRESSING

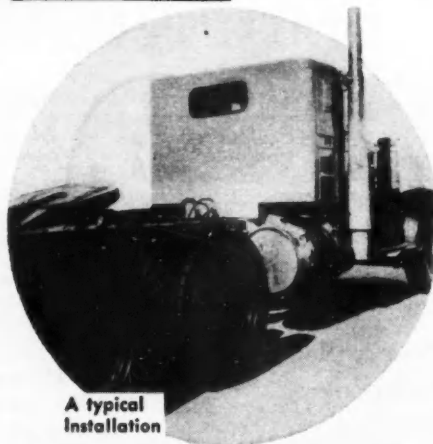
SAFETY—Above All

COMFORT—For Driver Efficiency

RUGGED—For Safety and Long Life

NO DRAFT VENTILATION—For Health

STREAMLINED—For Appearance and Less Wind Resistance

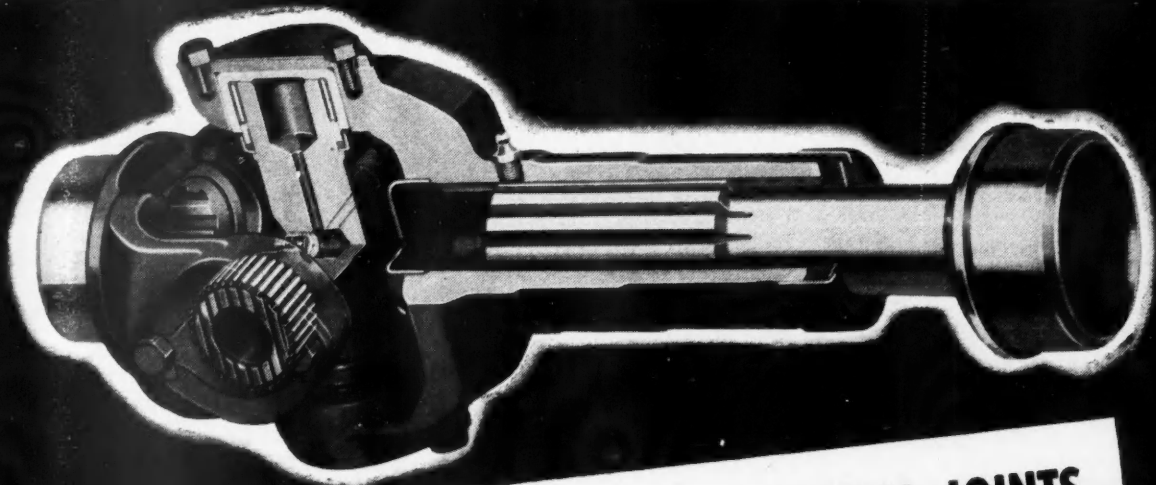


A typical
Installation

• Write for full Information

TIMPTE BROS., INC.
Manufacturers

Cherry 6686 • LONG DISTANCE 96
EAST 40th AND YORK STREET
DENVER 5, COLORADO, U.S.A.



Spicer

NEEDLE BEARING UNIVERSAL JOINTS Offer Exclusive Features for Exceptional Services

Design—Rigid one piece forged steel yokes and journal cross carry full torque load and provide precision needle bearing alignment.
Simple—sturdy—reliable.



Material—Carefully heat-treated steel forgings to resist fatigue and shock loads. File-hard bearing surfaces to resist wear.



Accuracy—Precision fits and surface finishes assure vibrationless, trouble-free, dependable operation.



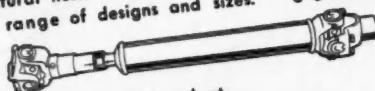
Balance—Spicer has unequalled facilities for maintaining very close limits of static and dynamic balance in all units.



Lubrication—After initial pressure lubrication, centrifugal action distributes reserve lubricant to bearing surfaces. Centrally located lubrication fittings allow refilling of lubricant reservoirs with shaft in installed position, without affecting original assembly or balance.



Types and Sizes—Every need in the automotive, industrial, and agricultural field is met by Spicer's broad range of designs and sizes.



Spicer engineers will help adapt Spicer Needle Bearing Joints to your particular needs.



SPICER MANUFACTURING
Division of Dana Corporation
TOLEDO 1, OHIO

45 YEARS OF
Spicer
SERVICE

TRANSMISSIONS • PASSENGER CAR AXLES
CLUTCHES • PARISH FRAMES • STAMPINGS
TORQUE CONVERTERS • UNIVERSAL JOINTS
SPICER "BROWN-LIPE" GEAR BOXES
RAILWAY GENERATOR DRIVES

New Products

Continued from Page 146

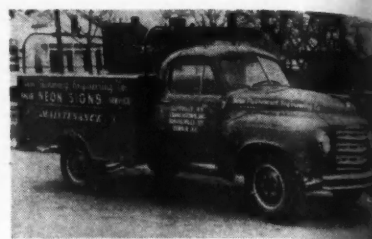
P17. All-Purpose Body

This Morrison Carry-All service body is being manufactured in sizes to fit standard $\frac{1}{2}$, $\frac{3}{4}$, and 1-ton chassis.

High-tensile steel is used in the construction of the entire body, gaining additional strength while actually reducing weight. To further reduce

weight and increase payload, the offset reinforced floor has been supported by a novel bridge-type underbody construction. Increased heavy-duty floor space is gained by placing the utility compartments out over the wheels, thus providing a floor area equal to that of conventional pick-up bodies with the added convenience of enclosed weathertight compartments.

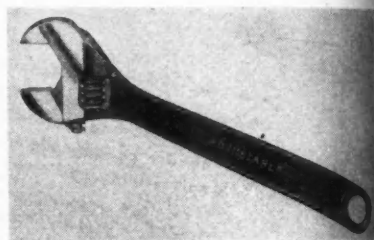
All utility compartments open to the outside of the body; all are weatherproof, and all are Wise-key-locked and handled. Compartment



doors are constructed of inner and outer steel stampings which are welded together. Morrison Steel Products, Inc., Buffalo, N. Y.

P18. Adjustable Wrenches

This new line of carbon steel adjustable wrenches is thinner and lighter. Thin, tapered jaws are said to possess strength and toughness. Made in 4, 6, 8, 10, 12, 15 and 18-in. sizes with maximum capacities from $\frac{1}{2}$ to 2 $\frac{1}{16}$ in., they are drop-forged from selected steel and heat-treated.



Wrenches have square shoulders on the shank portion of the sliding jaw which provide positive bearing against working stress. Wedging and spreading action is said to be eliminated. J. H. Williams & Co., Buffalo, N. Y.

(TURN TO PAGE 150, PLEASE)

YES! WE HAVE A
proving ground
at **EBERHARD**

WHERE samples are taken from stock of every new item developed and put to a series of rigorous tests.

"Purpose-Tested" EBERHARD-ware is subjected to abnormal wear, stress and strain on specially developed testing machines.

Every effort is made to simulate operating conditions of actual use on truck bodies, etc.

TESTED TO DUPLICATE
ACTUAL CONDITIONS
OF SERVICE
ON THE ROAD



Write for the Catalog which gives full particulars on the Complete EBERHARD line.

Eberhard
HINGES · LATCHES
DOOR IRONS · SEAT IRONS
LOCK HANDLES · DOOR HOLDERS
SEAT PEDESTALS · DOOR CONTROLS
LOCKS
REFRIGERATOR · VAN BODY
PANEL DOOR · SLIDING DOOR
ROPE HOOKS · LADDER
HOLDERS · ETC.

Rigid testing plus sound principles of engineering and design have contributed greatly to the universal acceptance of EBERHARD Long Run Truck Body Fittings.

Today as in the past, they are the favored choice of established body builders, constantly striving to produce better truck bodies.

EBERHARD Long Run
TRUCK BODY FITTINGS **E**

Division of the Eastern Malleable Iron Co.

EVARTS AVENUE

CLEVELAND, OHIO



"One damned occupational hazard after another, eh, Miss Tyson?"

COMMERCIAL CAR JOURNAL, May, 1949

FASTER LOADING

Another COST-CUTTING Application of **VICKERS** Hydraulics



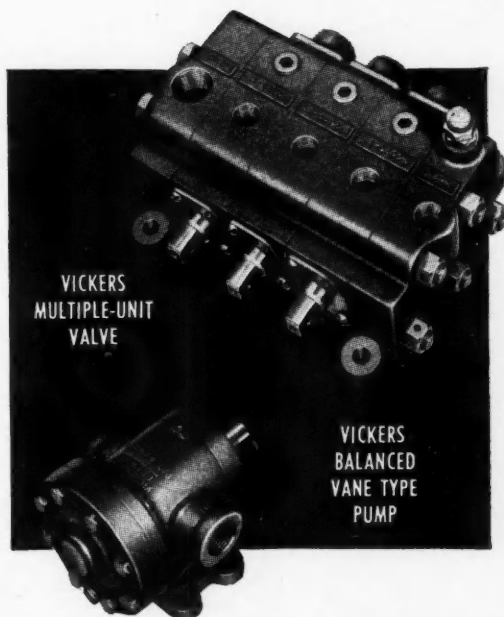
ATHEY Model 3 FORCE-FEED LOADER
SELF-PROPELLED

One important reason why users of the Athey Force-Feed Loader report savings in time and money is because it is equipped with Vickers Hydraulic Controls. A Vickers Multiple-Unit Valve is used to raise and lower the moldboard, throat, feeder and conveyor. Hydraulic power is supplied by a Vickers Balanced Vane Type Pump driven from the engine crankshaft pulley.

The Vickers Sectional Type Multiple-Unit Valve, available in many combinations for operating single- or double-acting cylinders, provides convenient and selective control. Ask for Bulletin 40-13.

Vickers Balanced Vane Pumps are outstanding for their long life and efficient operation. Their exclusive hydraulic balance construction entirely eliminates pressure-induced bearing loads and resulting wear. Longer life and less hydraulic slip are insured at maximum operating pressures. Ask for Bulletins 36-12 and 49-52.

3823



VICKERS
MULTIPLE-UNIT
VALVE

VICKERS
BALANCED
VANE TYPE
PUMP

VICKERS Incorporated

DIVISION OF THE SPERRY CORPORATION

1418 OAKMAN BLVD.

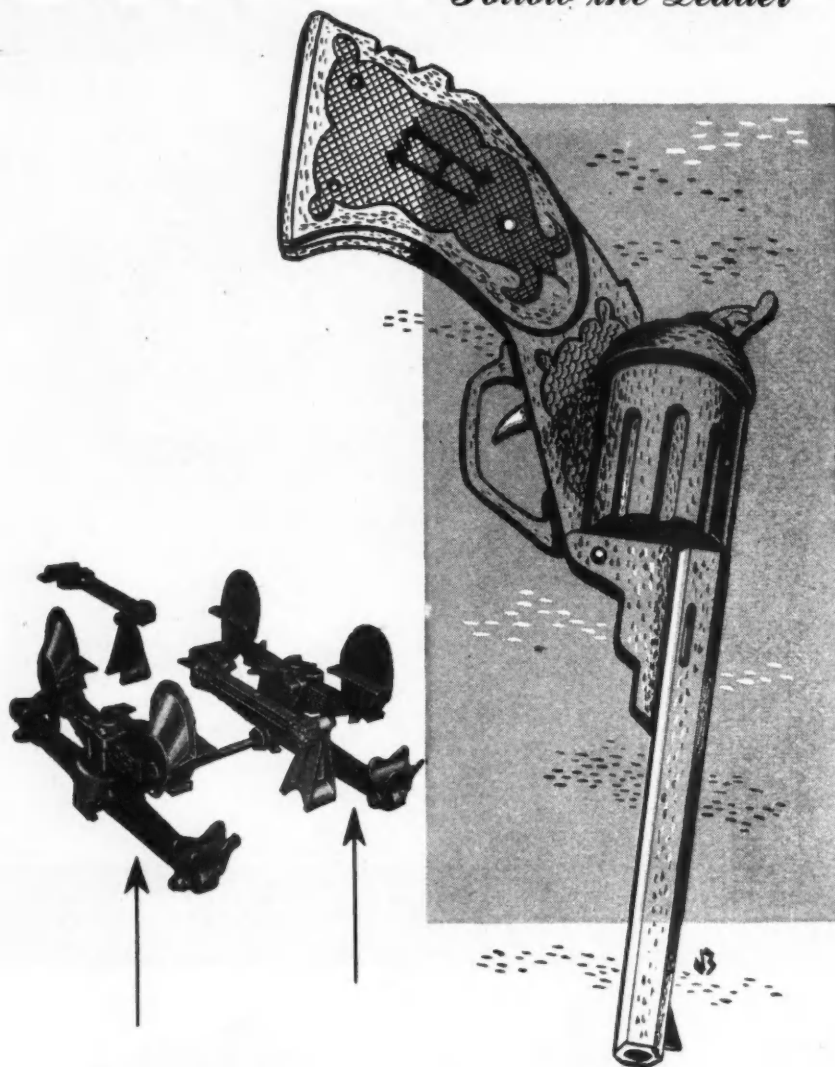
DETROIT 32, MICHIGAN

Application Engineering Offices:

ATLANTA • CHICAGO • CINCINNATI • CLEVELAND • DETROIT
LOS ANGELES • NEWARK • PHILADELPHIA • PITTSBURGH
ROCHESTER • ROCKFORD • ST. LOUIS • SEATTLE • TULSA
WASHINGTON • WORCESTER

ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921

"Follow the Leader"



THE GREAT EQUALIZER—

We don't talk much, Pardnub, but when we do talk, we say something.

Right now, we're talking about the greatest equalizer yet—that's the one on the Hendrickson tandem.



The equalizer beam on the Hendrickson tandem distributes the load weight equally between the axles and cuts the effect of road bumps by 50%.

That's great equalizing, Pardnub.

HENDRICKSON MOTOR TRUCK COMPANY

8001 West 47th Street • Lyons (Chicago Suburb) Illinois

New Products

Continued from Page 148

P19. Coolant Heater

This Vapor 4901 coolant heater does two things, heats and circulates the cooling system solution during the night or when the truck, bus, tractor or diesel power plant is not being used. When turned full-open the heater uses about 1 qt of gasoline an hour and develops an output of over 15,000 BTU an hour. Vapor Heating Corp., Chicago.

P20. Block Repair

The Zo-tite Blocksaver item April, P191, should have stated that the product *does* mix with the antifreeze. It is said to effect permanent repairs of sand holes, hairline cracks and wide open cracks in blocks but will not enter the radiator. The Zo-tite Products Co., Ozone Park, N. Y.

P21. Truck Lanterns

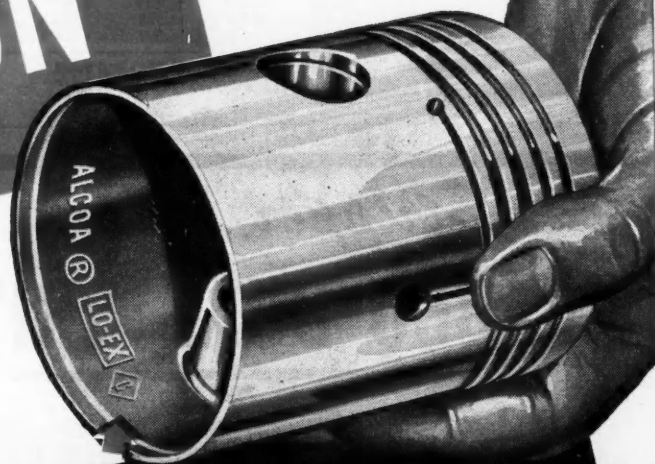
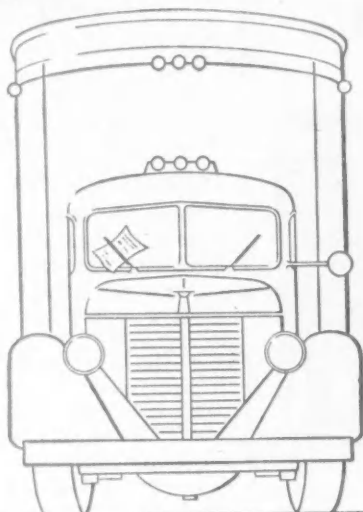
The Luck-E-Lite oil-burning lantern for truck and trailer auxiliary lighting service is furnished with an offset bail to permit it to rest securely against the back of the truck or trailer, hanging vertically even under bumpy road conditions. All metal, welded construction enables the light to withstand rough, all-weather truck service. The globe is protected by



the sturdy steel frame; it always stays cool and will not crack when exposed to rain or sleet. Embury Mfg. Co., Warsaw, N. Y.

(TURN TO PAGE 174, PLEASE)

when it's time to
RE-PISTON



Make sure
your replacement pistons
are genuine
ALCOA LO-EX!

It pays to be picky about pistons. Installing the *right* replacement pistons can make the difference between an overhaul job that barely passes inspection and one that puts real "snap" into an engine. That's why so many fleets have standardized on pistons of ALCOA LO-EX.

These light, strong aluminum pistons get full power out of fuel because they fit correctly at all engine temperatures. Clearance is controlled by the special low-expansion alloy and modern

flexible-skirt design. Result—good compression and smooth, quiet operation. Engines run cool, because ALCOA LO-EX alloy conducts heat fast.

Re-power with pistons you can count on for top performance. Ask your supplier for aluminum pistons trade-marked ALCOA LO-EX—the name that identifies Alcoa castings, finished by leading piston makers.

ALUMINUM COMPANY OF AMERICA, 1916 Gulf Building, Pittsburgh 19, Pennsylvania.



Aluminum Pistons of **ALCOA LO-EX**

CCJ Newscast

Continued from Page 39

Agnes Heyser, secretary. Rudy Paulson will be manager of the Portland branch; Dale Seeley will manage the Seattle terminal and Al Odoms will be fleet safety director.

FRUEHAUF CONVERSION KITS

A package-parts deal at drastically reduced prices has been introduced by the Fruehauf Trailer Co. to assist truck-trailer operators in modernizing their fleets to take advantage of liberalized weight laws in a majority of the states.

1949 Domestic Truck Factory Sales by Gross Vehicle Weight*

	5,000 lb. and Less	5,001-10,000	10,001-14,000	14,001-18,000	18,001-19,500	19,501-26,000	Over 26,000	Total
January	31,918	25,697	10,537	15,085	4,077	2,678	1,290	91,282
February	32,789	25,843	10,504	13,708	2,913	1,781	1,291	88,539
March	30,769	28,062	12,029	14,599	2,394	1,624	1,428	99,925
Total	104,486	79,322	33,070	43,392	9,384	5,083	4,009	279,746

* Automobile Manufacturers Association.

Coal Stripper Likes . . . FABCO DUAL DRIVES



Talk to any of the truck operators who require extra traction and full use of their motive power at the beginning or end of their hauls, and they will tell you that there is nothing like a Fabco Dual Drive to supply that particular need. The ready-mix concrete boys—the excavating contractors, cattle haulers—all those who need traction and power to get their load out of a hole, up over a bank, out of soft ground—they appreciate all that Fabco adds to medium duty production model trucks.

O. L. Standish, owner of the Linden Company, strip coal miners of Nelsonville, Ohio, is a case in point. He writes: "We recommend Fabco Dual Drives and Chevrolet service as given by the Nye Chevrolet Co. to strip mine operators or any other hauler with a tough on-and-off the highway operation." May we send you a copy of our Dual Drive Bulletin?

29 Years in this Business

Fabco

F. A. B. MANUFACTURING CO.

1249 SIXTY-SEVENTH STREET • OAKLAND 8, CALIFORNIA

Dual Drives • 6 and 10 Wheel Units • Logging and Highway Trailers • Frame Extensions

1949 Truck Trailer Production*

	February	Two Months
Vans:		
Insulated and refrigerated	153	380
Furniture	15	87
All other closed top	848	1,822
Open top	79	240
Total Vans	1,095	2,589
Platforms:		
With cattle and stake racks	61	180
With grain bodies	22	43
All other	456	983
Total Platforms	539	1,186
Tanks:		
Petroleum	148	340
All other		
Total Tanks	148	340
Pole and Logging:		
Single Axle	111	172
Tandem Axle	28	75
Total	139	247
Low-bed heavy haulers	90	179
Dump trailers	21	51
All other trailers	133	287
Total Complete Trailers	2,165	4,000
Trailer Chassis	115	180
Total Trailers and Chassis	2,280	5,000

* Industry Division, Bureau of the Census

INDUSTRIAL NOTES

Reynolds Metals Co., Louisville, has purchased a government-owned aluminum extrusion plant at Grand Rapids, Mich. . . . Borg-Warner Corp. is expected to spend \$5 million in 1949 for completion of its four-year expansion plan . . . Wagner Electric Corp. has acquired a 90,000-sq ft plant at Mt. Vernon, Ill. . . . Eaton Mfg. Co. has completed arrangements with McKinnon Industries, Ltd. of Canada for fabrication of two-speed axles at St. Catharines, Ont. . . . Fisher Body Division has begun construction of a new plant in the Pittsburgh area . . . United States Rubber Co. is constructing a new warehouse in Chicago at S. Pulaski Road and 42nd St. . . . General Motors produced 228,763 cars and trucks in the U. S. and Canada during March, compared with 192,902 in February and 209,597 in March, 1948 . . . Leece-Neville Co. has sold its plant at 5363 Hamilton Ave., Cleveland and is expanding production facilities at its newer plant at 5109 Hamilton Ave. The company recently supplied 80 AC Alternators for use on a fleet of White trucks purchased by Kroger Grocery and Baking Co. . . . Eutectic Welding Alloys Corp. has opened a new plant at Flushing, Long Island, N. Y. . . . Black Mfg. Co. is now producing its "Black Arrow" and "Millburn" lines at a new plant in Parkton, Md., 25 miles north of Baltimore . . . Electric Auto-Lite Co. is producing a new-type mechanical fuel pump at its new Lockland, Ohio, plant.

CLIFTON SLUSSER DIES

Clifton Slusser, vice-president of the Goodyear Tire & Rubber Co., died on March 25 at the age of 56.

END

(Please resume your reading on P. 42)

Can't sell me
fast-talk...I like
PUROLATOR's
PROOF of
lower
maintenance
cost!



PERCENTAGES BY WHICH PUROLATOR
MICRONIC ELEMENT EXCELLED
COMPETITIVE TYPES

COMPETITOR	IN AVERAGE DIRT RETENTION PUROLATOR LED BY:
A	199%
B	220%
C	113%
D	547%
E	164%
F	619%
G	255%
H	339%
I	318%
J	193%
K	237%

AVERAGE PUROLATOR SUPERIORITY
290%

Facts "talk" for the Purolator Micronic Oil Filter. Facts like the above test results which prove that Purolator removes 3 times as much engine-wrecking abrasives from the oil stream . . . assures you lower fleet maintenance costs.

For the answer to this superior

engine protection—look to Purolator's new and exclusive Micronic filter element!

This element is made of cellulose specially impregnated with plastic. It is engineered to remove particles measured in microns (.000039 of an inch) . . . has a

special accordion-pleated design which provides a filtering surface 5 times greater than that of old-style filters.

Plan now to cut maintenance costs and lost operating time. Let your near-by Purolator supplier service your entire fleet!

PUROLATOR PRODUCTS INC.
Newark 2, New Jersey
and Windsor, Ontario, Canada

PUROLATOR
MICRONIC OIL FILTER

"FIRST IN THE FIELD OF FILTERING"

Preferred BY THE MEN WHO DO
THE WASHING

**LACO FOUNTAIN
BRUSHES**

because They Give an Easier,
Faster and Better Job



LAITNER BRUSH CO.

2000 Brooklyn Ave., Detroit 26, Mich.
BRUSH MANUFACTURERS SINCE 1855



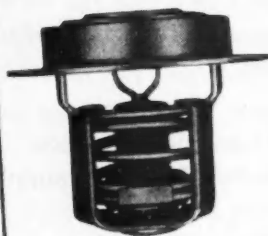
Bejin Carriage Company, one of Detroit's largest fleet operators standardizes on Laco Fountain Brushes.

● Laco Fountain Brushes cut fleet cleaning costs—for it washes better, faster, and is easier on the men doing the job. Brush is made for heavy duty use. All parts are made of aluminum alloy—strong but lightweight—a real time and money saver. Write for prices and name of nearest dealer.

Save Gas and Oil

BY REPLACING WORN THERMOSTATS

with **DOLE** "DV's" or
"ADJUSTABLES"



High-Efficiency DV

Designed for 1948 and later cars and trucks to handle high pump pressure... and for use with pressure caps in sealed cooling systems. Positive-acting thermal unit assures remarkable results in economy and performance.



All-Season ADJUSTABLE

Dole adjustable thermostats improve motor performance by accurate temperature control for every season and type of anti-freeze. You get quick warm-up, reduced crank case dilution and less engine wear—plus important savings in gas and oil.

CONTROL WITH DOLE

THE DOLE VALVE COMPANY
1901-1941 Carroll Avenue Chicago 12, Illinois
Representatives in Principal Cities

**B
U
Y
B
O
N
D
S**

... Selling Tires!

Continued from Page 71

Freeze on Cold Rubber

ENOUGH, then of prices. Now for a look at the technical developments in both rubber and the tires themselves. Since there has been a great whoop-de-do about "cold" rubber over the past year, and many have been wondering about its use in truck tires, we might as well get straight on that first. All the companies unequivocally say that they have no plans for using cold rubber in truck tires. The reason is that, whatever its merits, it still is not as good as the old standby natural rubber for truck tires. It may be used eventually in smaller sizes where the standard GRS now is used, but for the large over-the-road tire, it is not being considered. And, anyway, if it were suitable for large tires, there just is not enough available yet and will not be for quite a while.

There is some difference of opinion in the industry about just how good cold rubber is. There is unanimous agreement that it is better than GRS, but when it comes to comparing it with natural, friendly competitors fall out. There is general agreement that the cold product is definitely inferior to crude rubber in heat dissipation, on which score alone it is ruled out of large truck tires. But when proponents start to rack up its resistance to abrasion (longer wear) and flex cracking alongside natural rubber, they run into disagreement. Without laboring the point too much, however, we can report that opinion on abrasion resistance ranges from about as good as or a little better than natural to 15 to 25 per cent better. In resistance to flex cracking, all agree that it is better than GRS, but only one company considers it superior to natural. The others rate it inferior to natural in that respect. Anyhow, the discussion is academic so far as truck tires are concerned, because cold rubber won't be used in them, according to present plans.

Still on the subject of rubber, there is one development that has been getting considerable attention. A new type of carbon black, known as furnace black, developed during the war

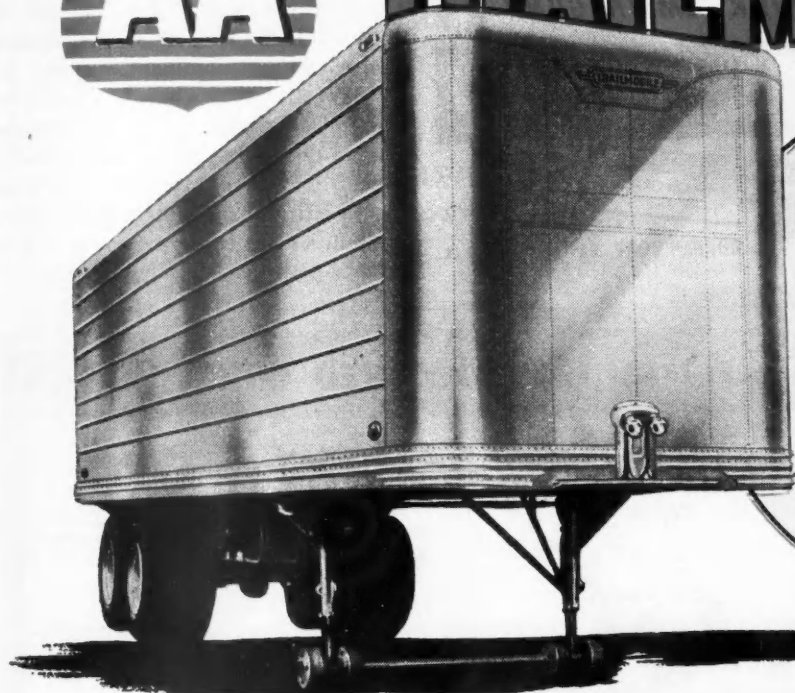
(TURN TO PAGE 164, PLEASE)

**THIS MUCH
EXTRA PAYLOAD
EVERY TRIP
WITH THE**

**UP TO
3000 LBS.
BONUS LOAD**



TRAILMOBILE



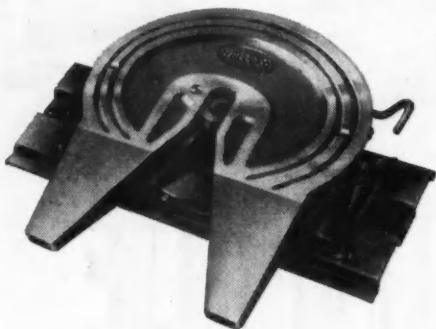
LIGHTER WEIGHT
STRONGER CONSTRUCTION
Actual scale weight tickets
prove that you can carry
up to 3,000 pounds more
payload with the
AA TRAILMOBILE.

Pull less equipment and more payload — let the weight go into freight and make a bonus profit every trip with the new All Aluminum — "All American" — Trailmobile. It is lighter than any trailer ever made before — a combination of lighter material, special shapes and new, distinctive Trailmobile assembly methods. But it is strong — built for the top payloads it is intended to carry. Load tested in the field over some of the toughest hauling operations in the country, it has proved the strength of this new material and design — and proved it is the highest net profit maker for operators on the highway.

Write TODAY or phone any Trailmobile office and see for yourself how the AA Trailmobile will make more profits for you.

THE TRAILMOBILE COMPANY
CINCINNATI 9, OHIO BERKELEY 2, CALIFORNIA

Holland Engineered TRANSPORT EQUIPMENT

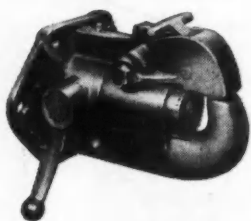


built to stand the gaff

Recently re-designed, Holland 5th Wheels have that extra ruggedness that will take the toughest usage. Maintenance cost is cut to a minimum, reliability reaches a new high in these engineered 5th wheels. It will pay to ask your supplier about the complete Holland line, or write for free catalog on the new, improved, Holland 5th wheels.

SHOCKLESS TYPE

Pintle Hook



No. 625

There's no slack or surge when you use the new Holland shockless type pintle hooks. Built heavy for heavy duty, use-tested on heavy assignments, Pintle Hooks by Holland Hitch are a sound investment in safe, trouble-free, low cost transportation.

HOLLAND HITCH CO.
HOLLAND, MICHIGAN

... Selling Tires!

Continued from Page 162

is being used in cold rubber, which accounts at least in part for its improved wearing qualities. It would seem logical that it would impart the same improvement when used with natural rubber, but for some reason it does not. It is believed that the reason lies somewhere in the mixing or compounding, but no one seems sure.

Patent Pool May Dissolve

ANOTHER coming development that should spur research is the

expected breakup of the rubber industry patent pool, established at the outbreak of the war. Under this agreement, new discoveries have been thrown into a common pot for all companies to use. The industry has petitioned the government to dissolve the pool, and it looks as though that will be done before too long.

Nylon Tops in Cords

IN RESPECT to cord materials, there is nothing new or startling in truck tire development at the moment. There are two new synthetic cords under test that look promising, but they are a long way from adoption, probably at least five years, if they do prove desirable. Cotton definitely is in the discard for truck tires, and rayon and nylon now rule the field. Of the two, nylon is considered the coming dominant material for heavy duty tires where load and speed require great strength. One company says that it has never had a blowout with its nylon cord truck tire. Nylon still is in short supply but production facilities are being expanded and the

(TURN TO PAGE 166, PLEASE)

DUNK 'EM IN GUNK H-S

COMPLETE DECARBONIZING
PROCESS
IN PACKAGE FORM

IMMEDIATE DELIVERY
1 GALLON OR A
TANK CAR

CURRAN CORP. LAWRENCE, MASS.

FAMOUS EXAMPLES OF ARMORED CONSTRUCTION

1. U. S. ARMY "GENERAL PATTON" TANK



2. AMERICAN HEAVY DUTY UTILITY SNATCH BLOCK

Oversize cold-rolled hinge pin

Drop-forged steel hook



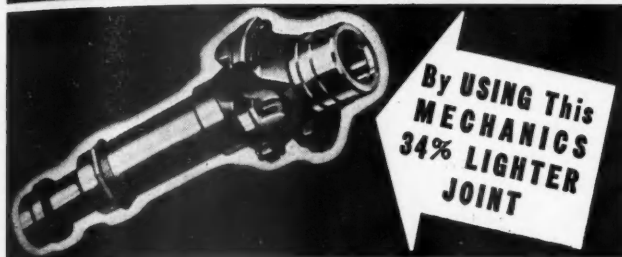
2" Alameda-fitted center pin

Heavy steel side plates

Dropped, slammed and battered on the job, blocks and sheaves have to be tough! *Armored Construction* makes AMERICAN Heavy Duty Utility Snatch Blocks serve better, last longer. Rigged quickly, too... just lift the hook and lay in the rope. In three sheave sizes, ten-ton capacity, handling up to 1/2" wire rope. Sold by distributors everywhere. Made by AMERICAN HOIST AND DERRICK CO., St. Paul 1, Minn.

ALSO MAKERS OF THE
AMERICAN HANDWINCH AND GENUINE CROSBY CLIPS

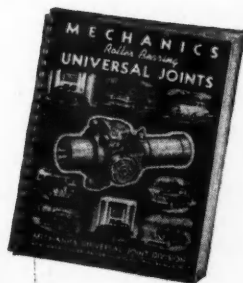
ASK FOR
**AMERICAN
BLOCKS AND
SHEAVES**



Not much, you may think. But, if you consider that those 28 pounds of DEADWEIGHT might have been carried 300,000—400,000 or 500,000 miles needlessly, QUITE A LOT! Why make your trucks haul unnecessary, non-profit-earning DEADWEIGHT that reduces the PAYLOAD part of their legal gross poundage? MECHANICS Roller Bearing UNIVERSAL JOINTS Truck PROPELLER SHAFTS are made 34% lighter, run smoother and place much less load on transmission and pinion bearings — without loss of torque. Let our engineers help add to the ton-mile capacity of your trucks by specifying weight-saving MECHANICS Roller Bearing UNIVERSAL JOINTS Truck PROPELLER SHAFT applications.

**MECHANICS
UNIVERSAL JOINT
DIVISION**
Borg-Warner

2034 Harrison Avenue
Rockford, Illinois



MECHANICS
Roller Bearing
UNIVERSAL JOINTS
For Cars · Trucks · Busses and Industrial Equipment

PERFECTION

IS THE NAME TO
Remember
WHEN YOU WANT
BODIES & HOISTS
FOR

PAYLOADS
THAT REALLY
PAY!



Photos show a PERFECTION No. 354 heavy-duty Dump Body of 10 yd. capacity; length 204", width 84". Equipped with PERFECTION

No.
1027

ROLL-A-LIFT



Write for Complete Information
THE PERFECTION STEEL BODY CO.
Galion, Ohio, U. S. A.

PERFECTION
STAKE and DUMP BODIES
HYDRAULIC HOISTS



FOR ANY TRUCK
STANDARD or SPECIAL UNITS
IN ALL SIZES · FOR ANY USE


Gatke
CUSTOM-BILT
BRAKE LININGS
STOP 'EM SAFELY
GATKE CORPORATION
248 N. La Salle St., Chicago 1, Ill.

WAUKESHA
ENGINES
DIESEL
GASOLINE
BUTANE
ALL LIQUID OR GASEOUS FUELS

KINNEAR
STEEL ROLLING DOORS
For Truck Bodies
and Buildings
Kinnear Rolling
Doors save floor
and wall space,
open completely
out of the way,
and give extra
protection. Built
any size; motor or
manual control.
Write for details.
THE KINNEAR MFG. COMPANY
2100-20 Fields Ave. • Columbus 16, Ohio



WALTER TRACTOR TRUCKS
Four-Point Positive Drive
100% Traction—Super Power
Write for literature
WALTER MOTOR TRUCK CO.
1001-19 Irving Ave., Ridgewood, Queens, L. I., N. Y.



KEEP UP TO DATE!
with **COLE-HERSEE**
Trailer Connectors — Accessories and Heavy Duty Switches.
COLE-HERSEE
The line that restores original equipment to trucks—trailers and busses.
SEND FOR COMPLETE CATALOG
COLE-HERSEE COMPANY
20 Old Colony Ave.—Boston 27, Mass.



... Selling Tires!

Continued from Page 164

future supply looks very good. In cost, it still is about three times more expensive than rayon, but more tires would be built with it if more were available. There also has been considerable improvement in the quality of rayon cord, and tire development engineers say what is being used today is much superior to that of two years ago. Nonetheless, the swing definitely is to nylon, and it is being offered in more tire sizes constantly.

Now for a look at that old perennial, the wire cord tire. All but one of the tire companies are very tepid about them for highway use in their present state of development. They point to the high production cost, requiring heavy premium pricing, the extra inflation pressures required, and low fatigue resistance under flexing. They say that currently they are not competitive because material and production costs necessitate selling prices that demand phenomenal mileage and number of recaps to make them economically practical. On the other hand, they do not reject the wire cord tire as a future possibility, and all of them are carrying on development work. The lone proponent company of the wire tire, which has asked that it not be identified, counters with its claim that the tires do have a place in highway operations. It currently is turning out a limited number of wire cord units each month and has had a considerable number in field service over the past three years. Plans are under consideration now to step up production in an effort to reduce costs through volume, especially for the wire reinforcement which is of special material and construction. The premium now is at about the 170 level, and an intensive effort will be made to reduce it.

(TURN TO PAGE 168, PLEASE)

Classified Advertisement

SALES AGENTS TO HANDLE LINE AIR AND VACUUM HORNS. MUST BE ACQUAINTED TRADE. MAIL QUALIFICATIONS BOX 15, COMMERCIAL CAR JOURNAL, 5601 CHESTNUT STREET, PHILADELPHIA 39, PA.

Giant Inker



1800 gal of printer's ink for the Chicago Tribune travel in style in this Heil cruiser tank equipped with special pump and meter to handle the heavy ink

CRESCENT
Wiry Joe
AUTOMOTIVE CABLE
Manufactured by
THE CRESCENT COMPANY, Inc.
Pawtucket, Rhode Island
 **✓ CHECK THE WIRE ON EVERY JOB**

America's Leading **HEAVY-DUTY**
TRUCK Manufacturers Standardize
on **LIPE**
CLUTCHES
★ for more miles between tear-downs!
★ for less wear and tear on the truck!
★ for easier maintenance and replacement!

LIPE-ROLLWAY CORP.
SYRACUSE, N. Y.

CRACKED BLOCKS
BLOCKSAVER repairs with a hard, METALLIC filler that fuses into pores of cracks. Pour powder directly into block (not into radiator). Safe to use. Anti-freeze can be put in right after treatment. No draining required. Will not congeal upon contact with anti-freeze. No hot spots. Order from your jobber or write.
The Zo-tite Products Co.
Dept. cc, Ozone Park 16, N. Y.


CAMPBELL
Lug Reinforced
TIRE CHAINS
THE CHAIN WITH THE SAW-TOOTH GRIP

U.S. Pat. No. 2,093,547 — Canadian Pat. No. 223,548
INTERNATIONAL CHAIN & MFG. COMPANY
YORK, PENNSYLVANIA



DELCO-REMY ELECTRICAL EQUIPMENT

Keeps Costs Down...Performance Up

Your fleet will operate more dependably, more economically when you use Delco-Remy equipment and replace with Delco-Remy parts — parts of the same quality as those used in the original equipment on leading trucks and buses.

The Delco-Remy line is complete. It contains all the parts you need to keep both old and new vehicles in top condition. A nationwide distributing organization makes Delco-Remy parts easily and immediately available.

When you use Delco-Remy, you're using quality electrical equipment that assures lasting satisfaction, both performance-wise and cost-wise.

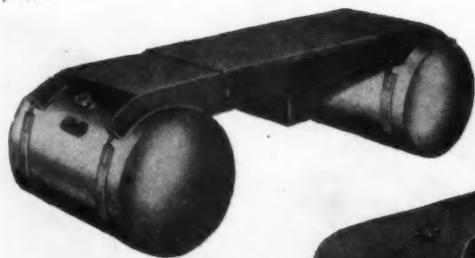


DELCO-REMY—A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

Delco-Remy

DIVISION, GENERAL MOTORS CORPORATION
ANDERSON, INDIANA

WHEREVER WHEELS TURN OR PROPELLERS SPIN



Snyder Safety Cylinder Tank and Tool Box Units use up wasted space by providing storage for tools, chains, power jacks, danger flags, etc. The jackwell is upright to prevent possible escape of jack fluid.



SNYDER SAFETY TANKS

A reflection of confidence in safety, dependability, and proven performance.

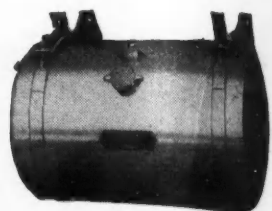
Snyder Safety Saddle Tanks occupy wasted space between the cab and fifth wheel. The top deck plate provides a safer means of crossing the chassis and carrying material, hose lines and spare tires. Fuel capacity of 75 to 150 gallons.

For Catalog and Name of Your Nearest Dealer, Write:

SNYDER TANK CORPORATION

P. O. Box 14, Buffalo 5, New York

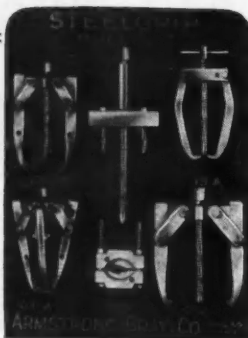
P. O. Box 2390, Birmingham 1, Ala.



Cylinder Tanks are used where space is limited. They are constructed for standard or end fill. Capacity of 28 to 72 gallons.



Pullers and Tool Rack



This permanent steel tool rack comes with these six most needed STEELGRIP PULLERS.

The sizes and types of STEELGRIP Gear, Wheel and Bearing Pullers most needed and wanted by garages and maintenance shops. Quickly and easily remove gears, wheels and bearings from shafts.

ARMSTRONG-BRAY & CO.
5320 NORTHWEST HIGHWAY CHICAGO, ILL.



KEEP DOWN COST-per-MILE with BEAR!

Increase tire mileage, cut accident costs! Make or get Bear Tests for Dy-Namic Wheel Balancing, use Bear Alinement, Straightening Equipment; the leaders do! BEAR MFG. CO., Dep't. C-3, Rock Island, Ill.

DEVILBISS

Spray-Painting Equipment • Spray Booths • Canopy Exhaust Systems • Exhaust Fans • Air Compressors • Hose and Hose Connections • Oil Guns
Distributors or factory sales and service representatives everywhere

THE DEVILBISS COMPANY
Toledo 1, Ohio

... Selling Tires!

Continued from Page 166

There has been a lot of talk in the industry for years about a 100,000 mile tire. Now one of the companies says it has one that has been in the field for about a year. No specific announcement ever was made of it as such, but we saw some reports from users that were mighty impressive. The tire is an extra tread job, first developed for heavy-duty off-the-road logging service and perfected with slight changes for highway use. It sells for about 40 per cent premium, but the company in some areas has sold it with a specific guarantee of a 10 per cent reduction in per mile tire costs.

THERE is nothing particularly new to report on truck tire tubes. A large proportion now are made of butyl rubber, with about the only demand for natural rubber tubes coming from operators who have had unfavorable experience with synthetics in passenger car tires. The cold weather stiffening and buckling of butyl tubes that has plagued some passenger tubes has not been a factor with trucks, probably because of
(TURN TO PAGE 170, PLEASE)

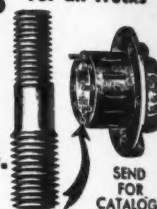
OVERSIZE

REAR WHEEL STUDS for all Trucks

Order from Your Jobber



CHAMP-ITEMS, Inc.
6191 Maple Ave.
St. Louis 14, Mo.



SEND FOR CATALOG

BE SURE

the trademark "Timken" is on every tapered roller bearing you buy. Timken bearings are first choice with truck and trailer manufacturers. Remember—for the best in bearings—

IT'S "TIMKEN"

Trademark Reg. U. S. Pat. Off.

The Timken Roller Bearing Company
Canton 6, Ohio

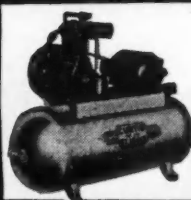
Snap-on Tools

THE CHOICE OF BETTER MECHANICS



SNAP-ON TOOLS CORPORATION
8026-E 28th AVE. KENOSHA, WIS.

Is it Air YOU WANT?



—then write for
BULLETIN C-6
illustrating and
describing
**CURTIS AIR COM-
PRESSORS • AUTO
LIFTS • CAR WASHERS**

CURTIS PNEUMATIC MACHINERY DIVISION
of Curtis Manufacturing Company
1970 Kienlen Avenue • St. Louis 20, Missouri



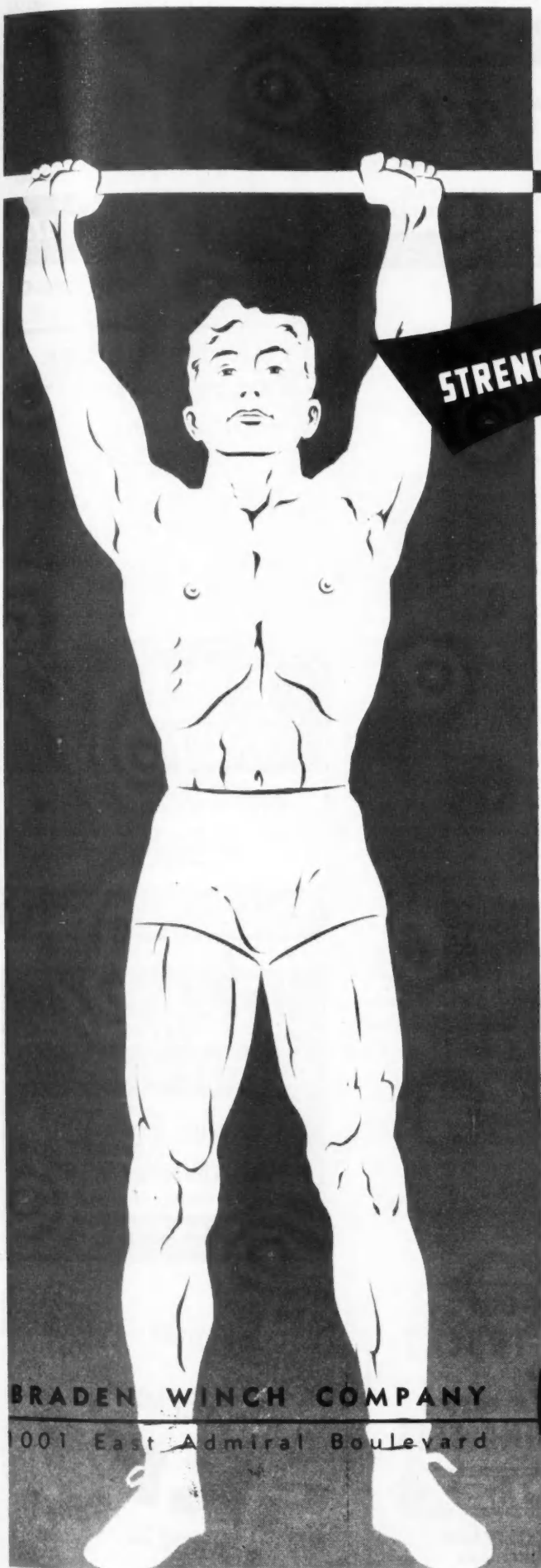
60

Thoro-Test

WATER PUMPS

Wohlert
CORPORATION
LANSING 5, MICHIGAN

"World's Largest
Manufacturers
of Water Pumps"

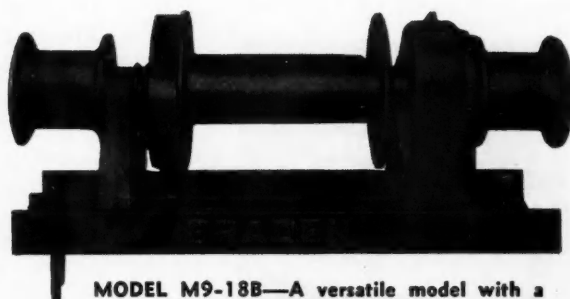


STRENGTH WITHOUT *Excessive* WEIGHT

■ The weight of a metal doesn't always determine its strength. Excess metal on a piece of equipment may add to the appearance, but it may not improve performance. In fact, excess weight increases initial cost and decreases pay load.

BRADEN Engineers constantly strive for metal designs that are light in weight, but have the necessary strength for top performance. That's why you'll never find excess weight in a BRADEN Winch. Compare the weight of any BRADEN Winch with that of any other winch of comparable rated capacity.

BUY BRADEN — They Are Safer

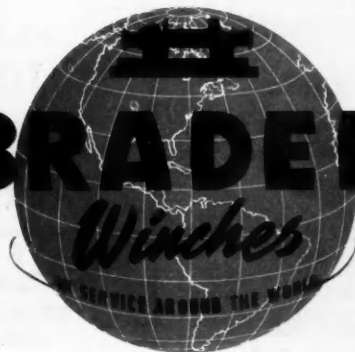


MODEL M9-18B—A versatile model with a load rating of 18,000 lbs., and a gear ratio of 44 to 1. Equipped with the New OIL-COOLED, FULLY ADJUSTABLE, AUTOMATIC SAFETY BRAKE.

BRADEN WINCH COMPANY

1001 East Admiral Boulevard

BRADEN



TULSA 3,

Oklahoma

RING GROOVE CLEANER

GEAR PULLERS

Cal-Van
MACHINE PRODUCTS INC.

WRITE FOR GENERAL CATALOG

809 WATER ST.,
JACKSON MICH. U.S.A.

GARAGE TOOLS



Time Savers...

KEN
TIRE CHANGING TOOLS
...they're "Job Designed"

T-70 SET

T-22 T-5 T-21

T-28

T-27

T-18

T-23

T-20

T-19A

T-48

T-50

T-10

T-25 New Ford Tire Tool

T-52

T-26

KEN-TOOLS are hand forged from chrome nickel alloy steel...heat treated for extra long life...Best By Actual Test!

KEN-TOOL... LARGEST EXCLUSIVE MAKERS OF TIRE AND WHEEL CHANGING TOOLS

See Your Local Jobber for Our Complete Line
The KEN-TOOL Mfg. Co.
Akron 5, Ohio



FOR ENGINE BEARINGS
CLUTCH PLATES AND PARTS
CHASSIS PARTS

Monmouth
TRADE MARK
is the name



• GUMOUT CLEANS CARBURETORS •

GUMOUT
tunes
carburetors

Gumout cleans fuel system, keeps it clean! Improves engine performance. Eliminates moisture. Adds power. Use the year around with your gasoline.

PENNSYLVANIA REFINING CO.
2692 Lisbon Road, Cleveland 4, Ohio
Butler, Pa. — Edgewater, N. J.

• GUMOUT CLEANS CARBURETORS •



170

... Selling Tires!

Continued from Page 168

higher pressures and stiffer casings which help prevent sagging. And the problem with passenger car tubes seems to be on the way to solution. One company has been testing a new butyl compound in tubes in cold areas and says that results this past winter indicate cold weather stiffening is no longer a problem.

Advanced Rims

A development of interest to both tire makers and fleet operators is the adoption of the so-called "advanced" rim by original equipment suppliers. The rim has a taper on both the inner and outer bead, permitting the outer one to seat much more solidly. As a result the bead fits snugly on the lock rim side, greatly reducing chafing, creeping, excessive wear and ultimate bead failure. Also, because flexing is reduced, there is less heat developed and fewer tire blowouts. Some operators are changing over the older equipment to the new type rims which are available from rim manufacturers.

END

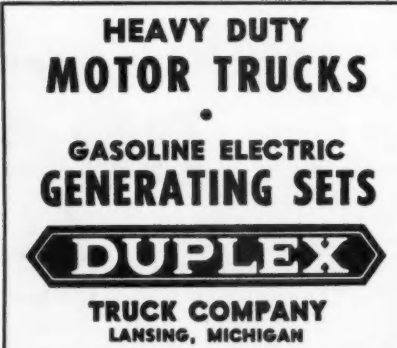
(Please resume your reading on P. 72)

**HEAVY DUTY
MOTOR TRUCKS**

**GASOLINE ELECTRIC
GENERATING SETS**

DUPLIX

TRUCK COMPANY
LANSING, MICHIGAN



MORE
PROTECTION!
MORE MILEAGE!

P&P-500A

CLEVELAND CHAIN

THE CLEVELAND CHAIN & MFG. CO.
Cleveland 5, Ohio



YOU CAN DEPEND ON
MCCORD GASKETS
MOST CAR AND TRUCK
MAKERS DO

MCCORD CORPORATION
Detroit, Michigan

Gaskets • Radiators • Mufflers
Pipes and Oil Retainers

FRINK
SNO-PLOWS

Both "V" TYPE and
ONE WAY BLADE TYPE
hand or power hydraulic control
FOR ALL MOTOR TRUCKS
FROM 1½ to 10 TONS

FRINK SNO-PLOWS, INC. CLAYTON, 1000 IN. N.Y.
DAVENPORT-BESLER CORP., DAVENPORT, IOWA
FRINK SNO-PLOWS OF CAN. LTD., TORONTO, ONT.



Permalux

FINER DECALCOMANIA

FIRST IN APPEARANCE
ECONOMY
DURABILITY

Made With DuPont "DULUX"
Write Today for details

THE PERMALUX COMPANY
500 Rathbone Ave. • Aurora, Ill.



PREFERRED
FOR
REPLACEMENT

SKF
BEARINGS



COMMERCIAL CAR JOURNAL, May, 1949



IT'S THE SECRET OF LONGER BLOCK LIFE!

You'll really be amazed when you try these rugged Bendix Eclipse Brake Blocks. Stops are shorter, safer—and smooth as silk. But, best of all, there are miles and miles of extra service life in every set. That means more stops for your money—fewer hours wasted with trucks laid up for brake maintenance. So, get in touch with your distributor and install them all around. When you see the results, you will agree that Bendix Eclipse Brake Blocks with *Benium* are the greatest braking discovery you have ever made.

Eclipse Brake Blocks

a product of *Bendix*

Greatest Name in Braking!

MARSHALL-ECLIPSE DIVISION OF
TROY, NEW YORK



BENIUM* Heat-resisting material is the secret ingredient developed by the Marshall-Eclipse Division of Bendix and used exclusively in Eclipse brake linings and heavy-duty brake blocks.



Home, Home on the Road

Continued from Page 77

So they turned to the trucking idea, shaved some \$800 off the total shipping cost and announced they were ready to deliver five-room modern homes almost anywhere in the country for a price approximating \$8000.

Lustron engineers went to work and came up with the special trailer that looks like a giant shelf in a hardware store. It's made up of specially-built compartments, designed to carry all the components of the Lustron home over rough roads without damage. It has 80 different compartments into which fit some 3300 parts that go into the Lustron home. This doesn't include an assortment of drawers and niches around the lower part of the chassis which carry the 4000 nuts and bolts necessary for putting the home together.

As the trailers inch along the factory assembly line, eventually on a conveyor belt, sections of the home are loaded on in the reverse order from which they'll be taken off and erected at the home site. First parts loaded are inside finishings and fixtures. Loaded last are wall and roof sections.

Lustron's shipping department is perhaps the most unusual that any trucker ever has seen. Officials call it the "largest shipping department in the world without a rail head." There's a railroad siding nearby, but Lustron plans to ship all of its homes by trucks.

1600 Trailers; 400 Tractors

THE FIRM already has placed the largest trailer order ever conceived—\$8,000,000 worth. These are being built by the Fruehauf Trailer Co.'s Avon Lake, O., factory and the Bantam Trailer Co. of Detroit, Mich.

The Lustron Corp., founded on \$25,000,000 worth of money borrowed from the Federal Government, has its sights set on a goal of 100 homes a day to be produced in the Columbus factory. That means a trailer loaded every nine minutes. When production reaches this peak—sometime in 1949—the firm plans to have a fleet of 1600 trailers operating. This will require 400 tractors (5-ton type) to move the trailers to and from the home sites.

The firm's general traffic manager, R. E. Reedy, a 33-year-old engineer who helped move airplanes out of the Columbus plant of the Curtiss-Wright Corp. during World War II, says he figures one tractor can take care of four trailers once the transportation network is organized.

The trailers, serving as assembly shops, will be at the home site for an estimated four days. Meantime, the truckers will be hauling empties back to the factory and returning with new homes loaded on their big rigs.

"That four-day schedule will vary,

of course," Mr. Reedy said, "depending upon how far away from the factory the construction site is."

Distance No Problem

DISTANCE doesn't seem to cut much of a figure either. Lustron recently trucked a home 1700 miles from Columbus to Miami, Fla., averaging 20 mph and arriving without even a window pane cracked.

Drivers on the experimental runs reported the load was tough to handle, but not much different than any heavy steel load. The full load, including the tractor, weighs about 46,600 lb. The home itself tips the scales at 30,000. The loading procedure has been worked out to place the heaviest load next to the trailer bed, assuring a safer ride.

The trailer is 32 ft, 6 in. in overall length, 8 ft wide and has a top clearance of 12 ft, 1 in.

There's a high wind resistance on the fully-loaded trailer, but engineers currently are working out a giant tarpaulin to cover the load to reduce this. The big tarp will cost about \$250. It's being made of heavy canvas.

The Lustron Corp. is financing the construction of the big trailers, but once they're ready to start rolling along the road, the home-making firm doesn't want any part of the trucking business.

"We plan to contract with trucking firms," said Mr. Reedy. "They'll buy the trailers and we'll consider them just like you do a railroad car. We'll even pay demurrage if we tie them up too long."

It may be possibly, officials said, for a trucker who owns but one tractor to participate in the long-haul scheme. These details are yet to be worked out, however.

Presently, two major trucking concerns are moving the Lustron Homes—the Pre-Fab Transit Co. of Farmer City, Ill., and the Commercial Homes Trucking Co. of Columbus.

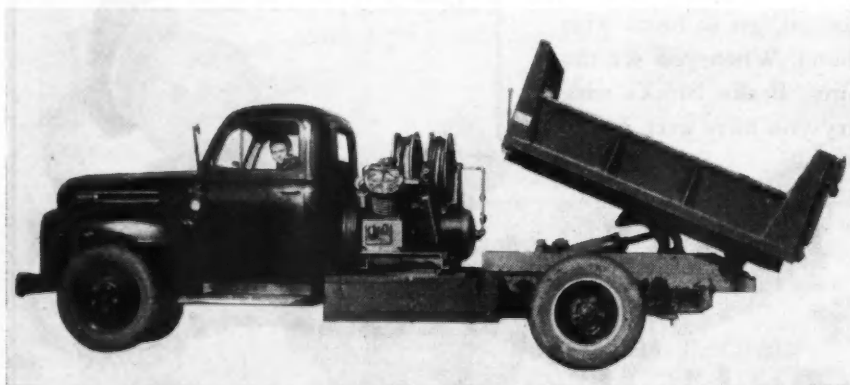
Commercial Homes is a newly-organized subsidiary of the Central Leasing Co. of Chicago. The Chicago firm, headed by James and John Gottlieb, learned its long-haul tactics the hard way. John Gottlieb was in the Army Transportation Corps during World War II and had control of traffic over the famous Burma road route.

The Pre-Fab concern is headed by Roy Roberson and Stanley Albert. They're experienced in hauling things like houses and buildings, having contracted for 90 per cent of the government business in hauling dismantled army barracks in the central states.

END

(Please resume your reading on P. 78)

Compressor-Dump Combination



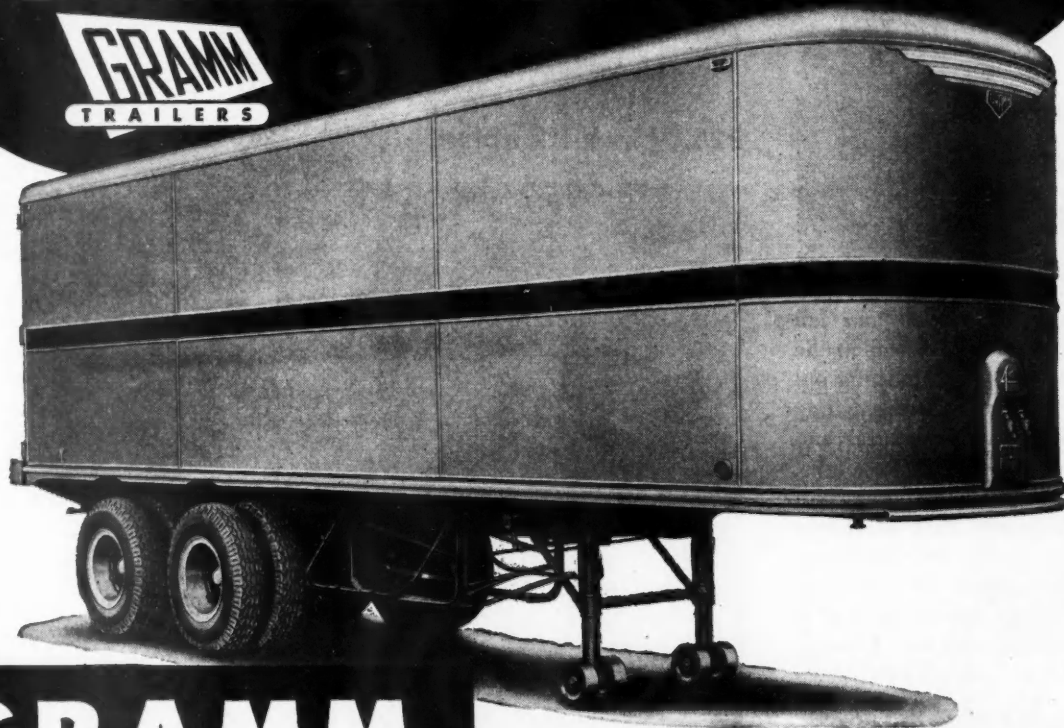
Davey Compressor Co. calls this new model the "Auto-Air compressor dump truck combination." Expected to find many applications in utility and highway maintenance field, the theory is that the truck can haul materials dislodged by air tools powered by the same unit. The compressor is a standard Davey unit direct driven by the truck engine through a Davey heavy-duty power take-off

You're **SURE** of Great

***SAFETY...
DEPENDABILITY...
ECONOMY...***

With Soundly Engineered — Super Rugged

GRAMM TRAILERS



GRAMM

A NAME FAMOUS FOR HIGHEST
QUALITY IN TRANSPORT EQUIPMENT

Whatever your requirements, you'll find a GRAMM trailer to meet your precise transport needs. In addition to offering a complete line of standard trailers, GRAMM also engineers and produces custom trailers for specialized applications. Bring your transport problems to GRAMM now. There's no obligation.

...and Here's WHY!

GRAMM trailers justly have earned wide renown as being super-rugged . . . super-rugged because they're engineered and built more rugged! What does this mean to you? It means longer carefree operation — greater safety and control — real dependability — a minimum of lay-up time and repair. All this adds up to less worry, more efficient use of man-hours, and more operating PROFIT!

GRAMM TRAILER CORP. • Delphos, Ohio

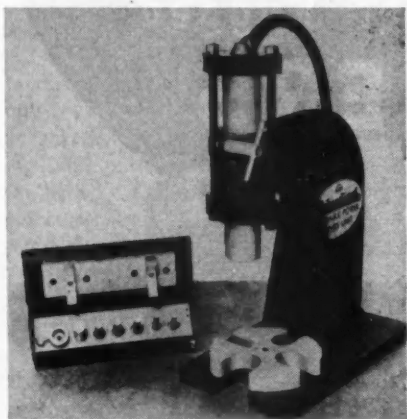
SOLD BY LEADING INDEPENDENT DISTRIBUTORS AND DEALERS

New Products

Continued from Page 150

P22. 8-Ton Arbor Press

This new, light-weight 8-ton hydraulic arbor press is designed for use with International's hydraulic power unit, which operates from any standard type air compressor. It is light in weight, weighing only 60 lb., and small in size, 8 in. x 12 in. x 20 in. in height, taking up very little bench space or shop room.



It is completely portable and can be easily moved to any bench in the shop for removing gears, pushing out piston pin bushings, straightening generator and starter armatures and all other every day power press uses.

Included with the arbor press is a set of six standard alloy steel pin punches, 1/4 in. to 3/4 in. diameters, an adjustable V-Block straightening plate in a compact metal case and a standard rotating turret. International Tool Corp., Chula Vista, Cal.

P23. Crawler Hand Truck

Move it anywhere with this new crawler type hand truck. Designed for the handling of appliances, crates and other heavy equipment where there is a problem of moving them over curbs or up a flight of stairs, the Stevens Escort Truck has a caterpillar tread which literally "crawls" up a stairway. The tread rolls easily over steel bearings set in an aluminum frame. The load is distributed evenly from step to step and allows for ease in handling, up or down.

The retractable swivel wheel supports the entire load when rolling on a level floor. The steel model has a capacity of 1500 lb. Two wheels near the top of the frame are used when loading heavy equipment into a truck. Associated Services, Carlinville, Ill.

P24. Throttle Control

A new self-contained hydraulic control system for throttle valve operation on rear engine vehicles consists of three principal units, a reservoir, a treadle operated master cylinder and a slave cylinder connected by a single or a double hydraulic line according to installation requirements. The slave cylinder operates the carburetor throttle valve in response to the movement of the master cylinder piston.

It displaces less fluid at a higher line pressure which permits a lower flow velocity for the same rate of throttle opening. This ultimately results in greater efficiency with considerably less treadle pressure. Bendix Automatic Corp., South Bend, Ind.

P25. Air Jet Muffler



This new type Heavy-duty air jet muffler is said to eliminate back pressure on the engine, reduce exhaust smoke and stop loud exhaust noises.

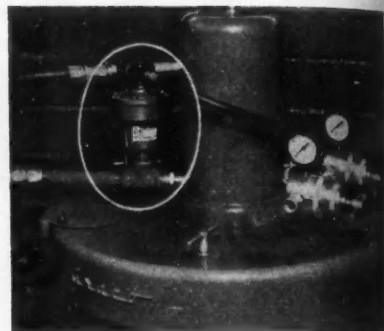
The muffler is slightly larger than ordinary types to accommodate a patented double-shell and orifice arrangement through which atmospheric air is drawn in, proportioned and introduced into the exhaust stream. Cooler engine operation on long grades and fewer muffler replacements due to cooler operation are claimed.

It is claimed that prolonged road tests show important savings in fuel consumption, frequently up to 15 per cent. Engine maintenance is said to be reduced to a profitable degree as engines do not foul-up as quickly as with the ordinary type of muffler. U. S. Flexible Metallic Tubing Co., San Francisco, Cal.

P26. Surge Eliminator

A new surge eliminator valve for use with any spray gun, which cuts the pump in or out as the gun is used, is this small, compact unit weighing less than 10 lb.

The valve prevents surging, puddling or gobbing when spraying begins. All straining or separation of materials due to constant high material pressure also is eliminated and a smooth, even spray is produced immediately with no trace of puddling or gobbing. The pump automatically loads when spraying stops. The valve

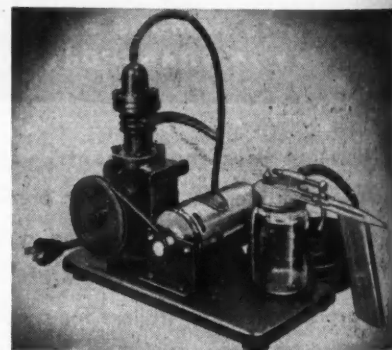


can be used with any material. It is especially useful with heavy compounds such as those used for roofing, autobody insulation, texture paints and acoustical coatings. A. Shelburne Co., Los Angeles, Cal.

P27. Portable Spray

This portable paint spray outfit works equally well in spraying lacquers, enamels, wax, insecticides, paint, and moth-proofing solutions.

The Spray-Master is a compact, lightweight unit with an ample-capacity electric motor belt-connected



to a single-cylinder, die-cast Zamac compressor. The container is an 8-oz. glass jar with brass and lightweight die-cast spray fittings. Portable Electric Tools, Inc., Chicago, Ill.

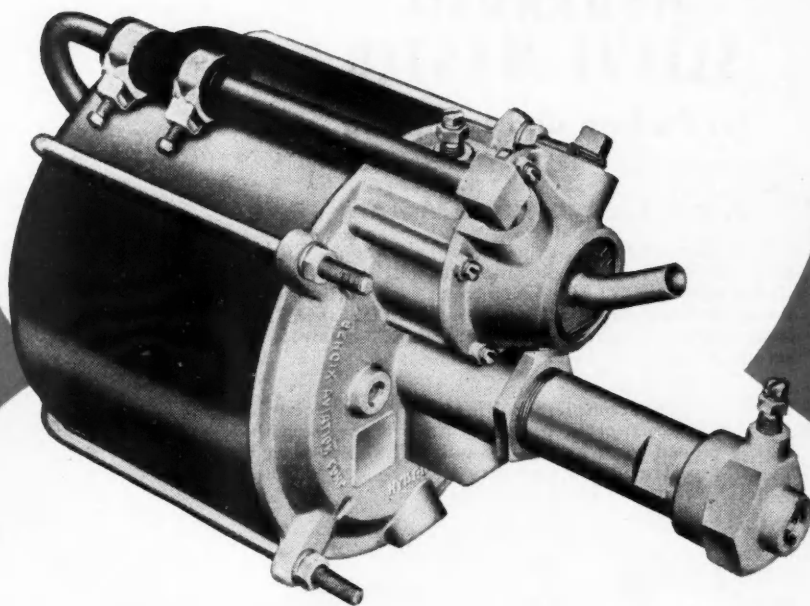
(TURN TO PAGE 176, PLEASE)

**Bendix
Products**

BUILDERS OF THE BASICS OF

BETTER MOTOR VEHICLES

**2 MILLION
INSTALLATIONS...**



HYDROVAC...

the Undisputed Leader in Power Braking!

By the clear logic of numbers, two million Bendix Hydrovac* installations lead to certain obvious conclusions: first, that a definite need for power braking is now widely recognized by truck users, and second, that Hydrovac is the power brake most of them prefer. There is much to support the conclusion, therefore, that Hydro-

vac power braking might very wisely be included in the new equipment specifications of most truck operators.

*REG. U. S. PAT. OFF.

BENDIX PRODUCTS DIVISION of
SOUTH BEND 20, INDIANA



*REG. U. S. PAT. OFF.

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

New Products

Continued from page 174

P28. 25-Ton Jack

A heavy-duty 25-ton "Rol-Toe" hydraulic jack, embodies a stationary ram which is part of the base of the jack. The body of the jack is the moving part and performs the lift. When lifting by the toe, the lateral or off-set stress is carried on the steel

roller which moves along the flat, milled surface of the stationary ram. The result is that the Rol-Toe jack has the same lifting capacity at the toe as it has at the cap.

It is provided with two hydraulic pumps, one for high speed, the other for heavy duty. The oil reservoir is separate from the hydraulic cylinder so that no pressure is imposed on the reservoir thus eliminating a frequent cause of leakage. Wm. S. Pine Co., Los Angeles, Cal.

**TOUGHEST JOB
IN THE SHOP
KNOCKED OUT!**

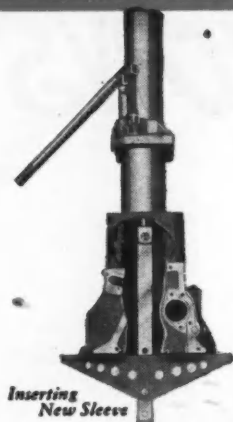


... by the **NEW**

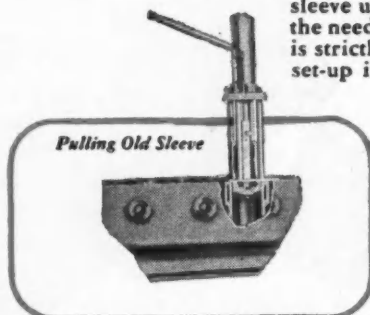
ACCURATE HYDRAULIC SLEEVE-MASTER

for Pulling and Installing

**CYLINDER SLEEVES
in all Sleeve-type Motors**



Inserting
New Sleeve

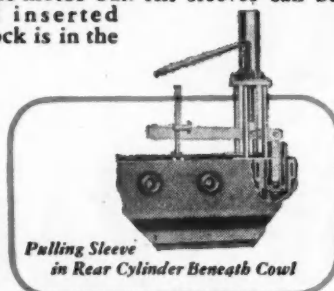


Pulling Old Sleeve

The SLEEVE-MASTER is powered with a 25,000 lb. hydraulic cylinder and is equipped with a two-stage pump which gives maximum pulling power for breaking "frozen" sleeves loose; then permits fast extraction when second stage of the pump is engaged.

No sleeve too tough or too stubborn! The ACCURATE SLEEVE-MASTER is designed to pull or install any sleeve up to 5½" O.D. and up to 11' in length without the need for raising blocks. The new SLEEVE-MASTER is strictly a one-man operation and permits simple, fast set-up in each cylinder.

The complete pulling and replacement job is a matter of only 1½ hours at the most. No need to lift the motor out! All sleeves can be pulled and inserted while the block is in the chassis.



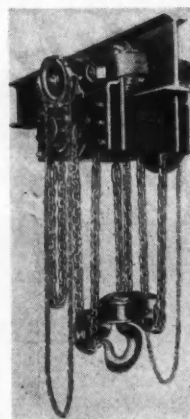
Pulling Sleeve
in Rear Cylinder Beneath Cowl

It will pay its way in any shop. Write for complete information.

ACCURATE TOOL AND GAGE CO.

216 SECOND AVENUE SOUTH, MINNEAPOLIS 2, MINNESOTA

P29. Trolley Hoists



A new line of Beam-Hugger Trolley Hoists as built around the beam fitting close. When its hook is raised to maximum height, its shank touches the base of the beam. Head room is reduced to the length of the hook only. This construction adds 17 in. to 51 in.

more plant working space, according to the manufacturer.

Beam-Huggers are manufactured in 13 sizes from one to 24 ton capacities. Each hoist is available in either plain or geared trolley type. Hoisting mechanism is of the David Round Auto-Bloc type. It employs two load sheaves with four strands of chain supporting the load. David Round & Son, Cleveland, Ohio.

P30. Rotary Finisher

The Disc-ette electric hand rotary abrasive finisher is primarily an abrasive finisher, but is available with utility kit for buffing, drilling, hole polishing, etc. It was designed to handle those operations for which the larger and heavier finishers are awkward and impractical. The Disc-ette, weighing but 3 lb., can be held in one hand and manipulated around



the part to be finished, replacing the method of manipulating the part around the grinding element. Special hand grips have been eliminated in order to guarantee control. Craft Hollow Industries, Inc., Wallingford, Pa.

END

(Please resume your reading on P. 57)